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ABSTRACT

The nine chapters in the book focus on the 1970s' metropolitan to nonmetropolitan migration stream and address both population patterns and processes and the impacts and policy issues associated with the resulting population redistribution in the Midwest. Peter A. Morrison places the Midwest in the national context of changing population structure and redistribution. John R. Borchert traces the historical and geographic forces which have shaped the current patterns. Calvin L. Beale and Glenn V. Fuguitt focus on demographic aspects of redistribution in the Midwest. Ralph R. Widner and Richard W. Buxbaum place Midwest trends in a policy context. Andrew J. Sofranko, James D. Williams, and Frederick C. Fliegel discuss a survey of recent migrants to fast-growing Midwest nonmetropolitan areas. Richard Lonsdale documents the decentralization trend in manufacturing employment and its role in population redistribution. David Berry examines the significance of land conversion from rural to urban uses. Alvin D. Sokolow addresses the local political implications of recent small town growth. Laurence S. Rosen outlines and analyzes methods and data needed for population projections. (Author/SB)

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Population Redistribution in the Midwest

NORTH CENTRAL REGIONAL CENTER FOR RURAL DEVELOPMENT

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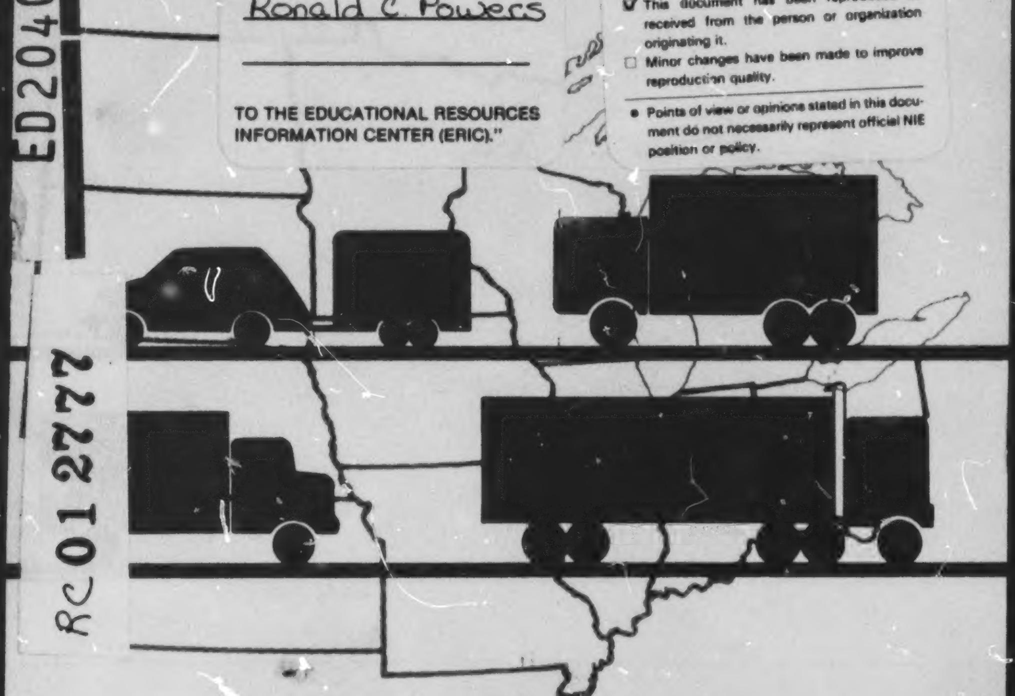

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Population Redistribution in the Midwest

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COMPLIMENTARY COPY

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FOREWORD

The Issue

During the 1970s, dramatic changes occurred in the patterns of population distribution within the United States and within many other countries of the world. These have been largely the product of changing internal migration patterns. For the first time in recent history in the United States, the metropolitan-to-nonmetropolitan migration stream was larger numerically than the stream toward metropolitan areas. This "turnaround" in net direction of migration was the product of reduced metropolitan-bound migration, but more importantly, it resulted from major increases in metropolitan-to-nonmetropolitan migration.

Reasons for the turnaround are varied but tend to center on three basic factors: (1) the continuing decentralization of employment, in the secondary sector, as well as in the expanding tertiary sector and the emerging quaternary sector; (2) the increases in the numbers of people in the United States who are relatively "free" to move, including elderly retirees; and (3) the widespread preferences for living in smaller towns and rural areas.

Because of the recent migration trends, the number of areas in the United States now experiencing growth is greater than at any other time in the last several decades (see Chapter 2). The implications of such widespread new, and often unexpected, growth are far-reaching, including the sudden need and/or demand for new or expanded local services and facilities, and the changing geographic dimension of the demand for social services which is being felt by national, state, and local governments.

The thrust of research in the 1970s has been directed toward documenting, verifying, and interpreting the population "turnaround." But, while the turnaround has been given early and widespread attention, there is still need for continued monitoring, understanding the relationship between it and various societal conditions, and addressing its implications for rural areas. The agenda for the 1980s should be enlarged to encompass these needs and in particular to address the impacts and policy issues which are likely to accompany the turnaround. This volume bridges the concerns of the two decades by presenting a series of analyses which address both the population patterns and processes and the impacts and policy issues associated with the turnaround. The chapters in this volume, which focus on the Midwest (including the states indicated in Figure 4.2), were originally presented at a conference entitled "Understanding Population Change: Issues and Consequences of Population Redistribution in the Midwest," held at the University of Illinois at Urbana-Champaign in March 1979. The focus on the Midwest is appropriate because the recent trends are of major significance to the region, both in terms of its growth relative to the nation as a whole, and in terms of population redistribution within the region.

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The Contents

The chapters in this volume can be grouped into two broad categories. The first four embrace broad demographic, geographic, historical, and policy aspects of the recent population redistribution patterns. In the first contribution, Morrison places the Midwest in the national context of changing population structure and redistribution. This is followed by Borchert's research, which traces the historical and geographic forces which have shaped the current patterns. In the third chapter, Beale and Fuguitt focus on demographic aspects of redistribution within the region, while in Chapter 4 Widner and Buxbaum situate Midwest trends within a policy context. The second group of chapters examines in depth a set of particular issues which have emerged along with the population turnaround in the Midwest. Sofranko, Williams, and Fliegel discuss results of an extensive survey of recent migrants to fast-growing nonmetropolitan areas within the region. Lonsdale then documents the decentralization trend in manufacturing employment and its role in population redistribution. In Chapter 7, Berry examines the importance and implications of land conversion from rural to urban uses, while in Chapter 8, Sokolow addresses the local political impacts of recent growth of small towns. In the final chapter, Rosen outlines methods and data needed for population projections and points out their strengths and weaknesses. The chapters represent important statements, by experts in several social science fields, pertaining to several of the fundamental population redistribution issues facing the Midwest and the nation.

The Conference

The March 1979 conference, held in Champaign, Illinois, was sponsored by the North Central Regional Center for Rural Development, and by the Department of Geography, School of Social Sciences, and Department of Agricultural Economics at the University of Illinois. It brought together numerous researchers, including those contributing chapters to the present volume, with other academics, planners, government employees, representatives of private concerns, and interested lay people. They came from sixteen states including all parts of the Midwest. With such a broadly based set of participants, a wide variety of issues of national, regional, and local interest were discussed. This volume is one of the many outcomes of the conference.

Acknowledgments

We wish to thank the North Central Regional Center for Rural Development for supporting the conference and producing this volume, and several units at the University of Illinois at Urbana-Champaign for their support of the conference. Among the many individuals who helped make the conference successful, we wish to especially thank Charles A. Neale and Carl V. Patton of the Department of Urban and Regional Planning, and Brandt Pryor of the Office of Continuing Education and Public Service, University of Illinois.

Curtis C. Roseman
Andrew J. Sofranko
James D. Williams

Population Redistribution in the Midwest

CHAPTER ONE

THE TRANSITION TO ZERO POPULATION GROWTH IN THE MIDWEST[1]

Peter A. Morrison

Introduction

Humorous stories about migrants abound in American folklore. At a place called Pacific Springs in what is now southeastern Idaho, the great Overland Trail leading west split into two forks. There, so the story goes, the migrant had to choose: Oregon or California. As the westward rush grew, the people already settled in Oregon got to thinking about how they might influence that choice. So along the first few miles of the trail to California they scattered handfuls of gold nuggets, while at the start of the other trail, they put up a sign that said simply, "Oregon." The people who chose Oregon were the ones who could read.

The great migration trails now lead south as well as west; only since 1970, the statistical center of the U.S. population has swung 15.1 miles west and 9.7 miles south. And what draws migrants to one place instead of another has become a bit more complex.

Sunbelt natives may regard the southwestward drift as merely a long-overdue correction of the original mistake made by the British settlers when they landed in the upper right-hand corner of the map instead of proceeding directly to Houston. But concealed in the straightforward geometry of these vectors is a complex pattern of population redistribution that is altering the economic, social, and political complexion of major regions of the country and reshuffling the locations of population growth and decline within them. Some metropolitan areas that were used to almost uninterrupted growth are now stable or declining; and in nonmetropolitan areas, many small communities are experiencing sudden and unexpected growth. People of the 1970s seem to want to *be* where people of the 1940s wanted to be *from*.

Today's highly visible demographic changes include a falloff in the birthrate, reversal of the historic movement of people from rural to urban areas, and a redirection of migration among regions. These changes have been building momentum over the past 15 years and are now operating in concert to produce a basic change in the nature of national growth. From the mid-1940s through the early 1960s, the U.S. population grew by large annual increments of births—a kind of growth that depended far more on biology than on geography; the birthrate was approximately the same everywhere. Now, the birthrate has dropped so sharply that migrants and their choices of where to go are more important than babies in determining the growth or decline of a place. And migrants' choices have been shifting away sharply from large metropolitan areas to smaller ones and even to rural communities.

Absolute numbers are less important than the characteristics of migrants, however. To begin with, migrating adults are more influential than babies whether they migrate or not. Babies do not hold jobs or buy houses, nor will they enter a voting booth until they are 18, but people over 18 who arrive at or depart from a place represent a transfer of immediate buying and voting power. This creates a so-called "zero-sum" framework, in which population growth in one region or place occurs largely at the expense of others, and does so with social, political, and economic repercussions.

Contemporary and Emergent Demographic Changes: The National Perspective[2]

Toward the end of the 1960s, the United States entered a period of demographic transition to zero growth, a situation more demanding, perhaps, than either growth or no-growth is likely to be. Nationally, the population increased 1.6 percent each year, on average, between 1955 and 1965. Thereafter, the growth rate declined, reaching its present level of only 0.8 percent. "Zero population growth," the end state of this transition, will come about if fertility remains at or below replacement level—an ultimate level of completed cohort fertility of 2.1 births per woman.

Currently, Americans are reproducing at a rate that implies about 1.8 births per woman. One plausible projection of future growth (Census Series II) is premised on the assumption that fertility will climb back to the replacement level of 2.1. In that case, the transition to zero growth would be gradual and would extend through about the middle of the twenty-first century. No less plausible, fertility may edge slightly lower than it is now and level off at 1.7 births per woman (Census Series III). In that case, the transition would be more abrupt and the U. S. population would stop growing in 2020. Although for our purposes the former projection will be taken as a "best guess" forecast to guide our thinking about the future, it is apparent that under either projection, the transition to stability will span several decades at least.[3]

Paradoxically, as population growth has slowed, new household formations have surged (Figure 1.1). Households are now forming at nearly three times the rate at which the population is increasing, and some degree of surge can confidently be expected to continue at least into the late 1980s as the many young adults who were born during the postwar baby boom pass through the prime household-forming ages. This disparity between numbers of people and numbers of households can be a source of confusion in supposedly "declining" areas. A city like South Bend, Indiana, for example, can be characterized as either growing or declining, depending on which measure one chooses. Take households as a unit of measure, and

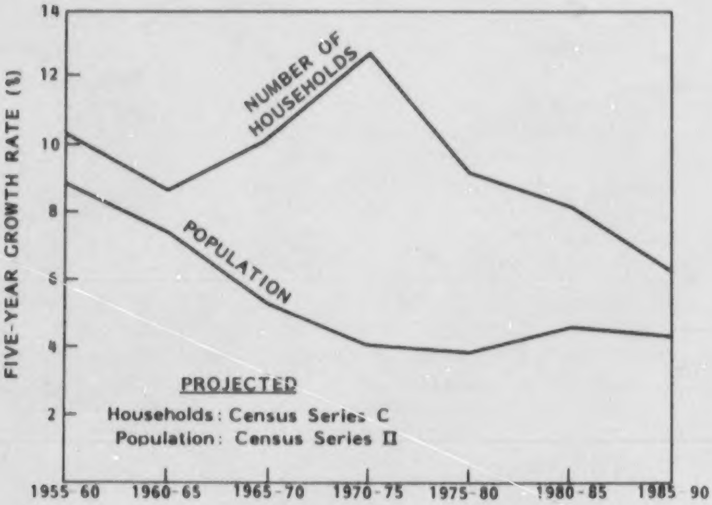


Fig. 1.1. Contrasting growth rates: U.S. population vs. number of households

South Bend has grown roughly 1 percent annually since 1970; count people, and it has declined about 1 percent annually.

The changing composition and structure of families

Americans are having fewer children, and by all indications are settling on the two-child family as the desired norm, in contrast to the three-child family of the 1950s. As a result, the significance of slowing population growth extends beyond the simple arithmetic of national numbers to the changing geometry of family structure. Future families will contain more adult members (hence more income-earners) and fewer young mouths to feed, giving a gradual, albeit modest, demographic boost to per capita family income. A more significant boost has come from the sharply rising number of wives working outside the home. Today, around 46 percent of married women are in the labor force—nearly double the 1950 figure of 24 percent. Further increase is likely, not only in response to inflation, but for the more fundamental reason that wives today are ordering their careers as mothers and income-earners quite differently from the way they did a decade or two ago. They start earning income earlier in life and remain in the paid labor force after children arrive; their attachment to work outside the home is more permanent. Compared with her counterpart of a generation ago, today's working wife is likely to continue working throughout her adult years, and more often at a full-time job.[4]

The future, then, is shaping up as one in which the typical family will have fewer family members and more dollars to spend on each member. This increased affluence is likely to spur the kinds of pursuits, possessions, and quests for amenities that people favor with discretionary income—leisure and recreational activities, ownership of second homes, and residence in amenity-rich locales that appeal to Americans' taste for country living.

Pressures of a changing age profile

A second important aspect of the transition to ZPG is the changing age structure of the population. Because many dimensions of public and private life are age-linked, shifts in fertility rates may have intense and long-lasting social, fiscal, and political effects.

Of particular importance are disproportionate changes in the relative sizes of dependent and supporting populations. A generally growing population expands the demand for public services and furnishes the revenues to support them. But both service demands and revenues may grow—or shrink—in proportion to the population in specific age ranges. The bumper crop of babies born just after World War II, for example, strained the capacity first of maternity wards in the 1940s and 1950s, then of the schools and universities (as well as the juvenile courts and prisons) in the 1950s and 1960s, and now, in the 1970s, of the job and housing markets. They will also strain the capacity of the Social Security system by the early part of the next century, because they will greatly outnumber the children they have produced to shoulder the Social Security burden.

The baby boom and bust may be past, but in their wake they have left an uneven age distribution whose imbalances continue to be felt. The various age groups within the population are changing at widely different rates. The average U.S. growth rate of 6 percent between 1970 and 1977 conceals large variations by age group. For example:

1) The population aged 5 to 13 (students) declined 12 percent.
2) The population 25 to 34 (prospective homeowners) increased 32 percent.
3) The population 65 and older (heavy consumers of health care) increased 18 percent.

Inevitably, these discrepancies will affect school and college enrollments, the demand for particular kinds of dwelling units suited to specific age groups, and various redistribution programs such as Social Security.

The so-called "graying" of the population merits special attention here, since older citizens make up a disproportionate (and, in some areas, rapidly increasing) fraction of the population in parts of the Midwest. Early in the next century, the elderly population will increase sharply as the last chapter of the baby-boom story finally unfolds. Today, only 11 percent of the U.S. population is over 65 years old; 50 years from now, in 2031, that figure will rise to about 18 percent, or half again as much as today. The attractions that parts of the Midwest hold for this key age group are well established and merit careful study.

Changing trends in population redistribution

Even as national population growth slows, some sections of the nation will continue to grow—even boom—while others will lapse into decline. This brings us to the third aspect of the transition to zero growth: the kinds of settings that people favor as places to live.

A key contemporary trend is the population's dispersal from large communities, labeled "deconcentration" hereinafter. The average American resided in a place that had 546,000 inhabitants in 1960 and 524,000 in 1970. By 1975, however, the population size of this hypothetical place was down to only 455,000—a reduction of 13 percent in only five years. Clearly, the U.S. population is favoring smaller places.

This deconcentration trend shows up in several ways. First, there has been a notable shift away from large urban centers to smaller ones. Major central cities have been losing population for decades, but now major metropolitan areas as a whole are beginning to stabilize and decline. Altogether, 12 of the 30 largest Standard Metropolitan Statistical Areas (SMSAs) have failed to register any significant population growth since 1970, including five in the Midwest: Detroit, St. Louis, Cleveland, Milwaukee, and Cincinnati. The small metropolitan areas are the ones that are now gaining migrants—places like Springfield, Missouri; St. Cloud, Minnesota; Lawrence, Kansas; and Bloomington-Normal, Illinois.

A second form of deconcentration is metropolitan spillover, in which the traditional pattern of suburban growth extends into areas beyond the metropolitan fringe. The nonmetropolitan territory adjacent to existing SMSAs can be regarded as an incipiently metropolitan zone. Such "adjacent nonmetropolitan" areas are experiencing rapid growth, as satellite towns and cities take form within commuting range of nearby metropolitan centers.

A third form of deconcentration is the movement of people into truly remote and sometimes entirely rural nonmetropolitan areas, which are least susceptible to urban influence. The absolute number of migrants involved in this movement is small; but since the areas themselves are sparsely populated, the *relative* impact on these destination communities can be substantial.[5]

Manifestations of National Trends in the Midwest[*]

The nationally measured population shifts we have just examined are abstractions far removed from the palpable experience of population change in specific regions and localities. The fact that these shifts do not occur uniformly or simultaneously across the nation or even within a region carries profound political significance.

The North Central Region, like the nation, is in transition from growth to eventual stability. Its rate of population growth has declined steadily since mid-century (Figure 1.2): from an average annual rate of 1.5 percent during the 1950s, to 0.9 percent during the 1960s, to only 0.3 percent during the 1970s.[7] The region is now closer than the nation to a state of growthlessness, and is getting there faster. The transition is advancing unevenly, however. It has been particularly abrupt in the heavily industrialized East North Central States (ENC), where a pattern of no-growth already has emerged in many metropolitan areas and impends in the states of Ohio and Illinois. Growth in the West North Central States (WNC), however, has declined much less sharply than in the ENC and the nation as a whole, and shows signs of stabilizing.

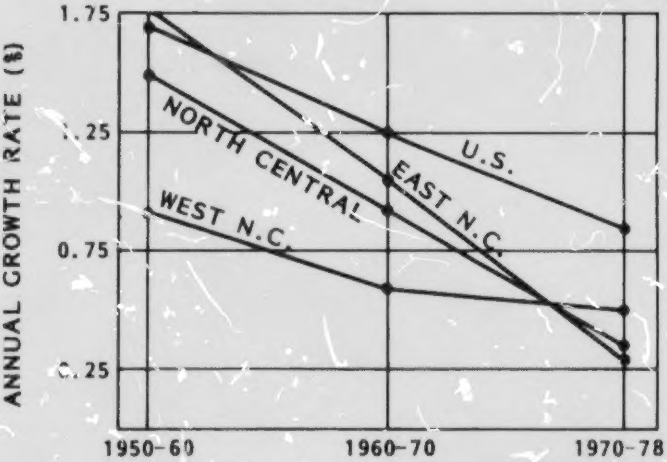


Fig. 1.2. The slowing pace of population growth in the Midwest

Overall, zero population growth seems likely to make its debut earlier in the Midwest than elsewhere. In addition to low fertility, certain other factors are inhibiting the region's growth: (a) the intensified net out-migration from the ENC, which is directly offsetting roughly half of the population's natural increase, and (b) the population's somewhat older age structure in parts of the WNC, which has reduced the capacity for natural increase. The transition to eventual stability, however, is marked by a more balanced pattern of population change than before: Metropolitan and nonmetropolitan trends no longer diverge as sharply as they did in earlier decades.

The emergence of zero growth

In the metropolitan Midwest, the widespread disappearance of growth mirrors the national trend, but more acutely. This point is illustrated in Figure 1.3, which compares the change between the 1960s and 1970s in the annual growth rate of the metropolitan population and its two components, natural increase and net migration. The extent of decline in natural increase (reflecting lower fertility) has been identical in both the Midwest and the nation. Out-migration is the chief culprit responsible for the early advent of no-growth in midwestern metropolitan areas. Out-migration became especially noticeable during the 1970s in the ENC's large industrial metropolitan centers. Metropolitan areas of the Midwest, unlike the

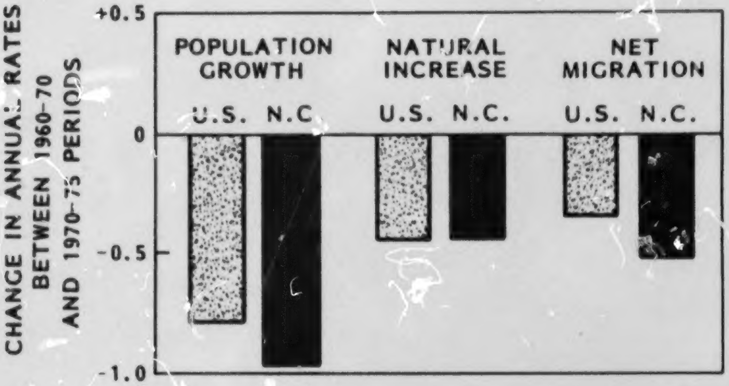


Fig. 1.3. The slowdown in metropolitan growth in the North Central Region due to declines in fertility and migration

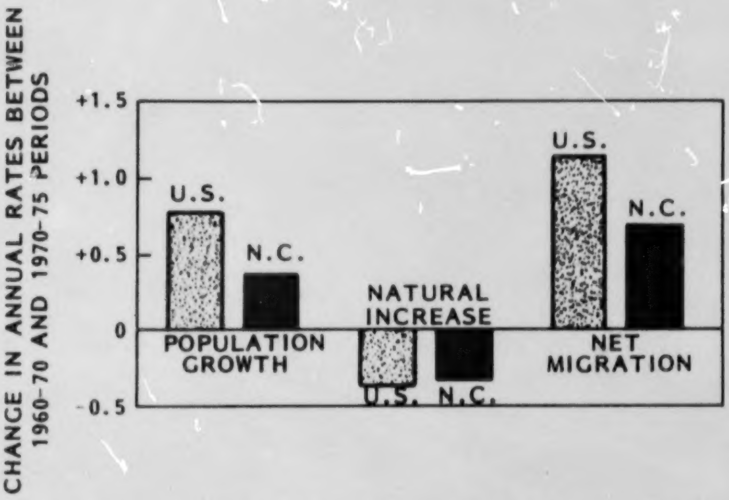


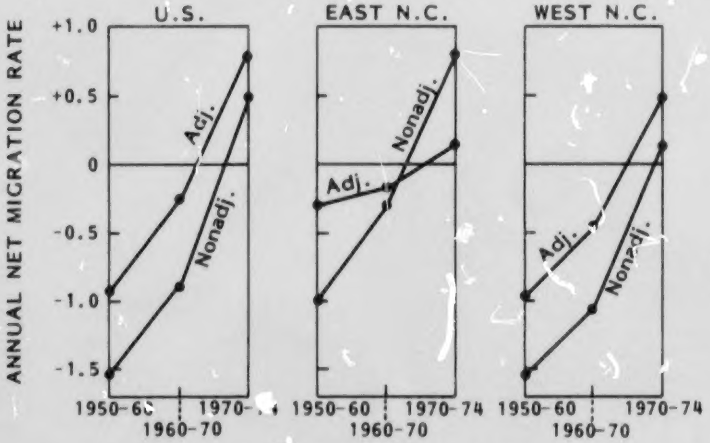
Fig. 1.4. Increase in nonmetropolitan growth due to net migration

rest of the nation, have experienced a worsening of net migration in all categories of population size, not merely the large ones.

In the nonmetropolitan Midwest, rates of growth have increased, although not as much as in the nation (Figure 1.4). Here, too, net migration has been the principal source of change. The influx of migrants has more than offset the declining rate of natural increase.

The most useful information about trends in nonmetropolitan areas can be gained only by distinguishing at least two kinds of such areas: those that are so near to an SMSA that they serve as receptacles for metropolitan spillover, and those that do not because they are more remote or even isolated. A crude but serviceable distinction is to classify counties according to whether or not they are adjacent to an SMSA.

This distinction is made in Figure 1.5 for the ENC, the WNC, and the entire nation (based on SMSAs defined as of 1974). The most dramatic migration shift has occurred in the nonadjacent counties, an indication that the turnaround in nonmetropolitan migration is not the result simply of metropolitan sprawl. It is also apparent that the *reversal* from net out-migration to in-migration in the remoter counties was gathering force well before the widespread publicity it was accorded in the 1970s. The percentage increases in rates in Figure 1.5 are deceptively large, to be sure, owing to the small absolute numbers of migrants involved. (If 6,000 migrants moved to Calhoun County, Illinois, its population would increase 100 percent.) The larger message, however, is clear: Places that once conformed to—indeed, defined—the stereotype of the isolated midwestern community whose destiny was to decline, now exhibit clearcut demographic vitality.



NOTE: Adj. = adjacent to an SMSA; Nonadj. = nonadjacent.

Fig. 1.5. The nonmetropolitan migration turnaround, 1950-74, by metropolitan adjacency

Subregional patterns

Because it is more meaningful and useful to interpret metropolitan and nonmetropolitan trends at a subregional scale, I shall rely on a less commonly used system of economic subregions formulated and applied by Calvin L. Beale and his associates at the U.S. Department of Agriculture. These subregions divide the nation into 26 economically and culturally distinct groupings of counties, irrespective of state boundaries (which are often artificial). These subregions differ importantly in resource endowment, economic activity, and the evolution and present form of human settlement.

Unpublished summary data (kindly furnished by Beale) show the net migration into and out of the counties that make up each of these 26 economic subregions. Rates at which subregions are gaining or losing population through migration are shown for three analytical groupings of counties within each subregion: (1) SMSA counties, (2) nonmetropolitan counties adjacent to SMSAs, and (3) nonmetropolitan counties not adjacent to SMSAs. These data enable us to measure the rate of migratory gain or loss for the "average" county in each of these three types. (Because the data furnished are in summary form, the "average" county discussed in this section is weighted by its population size.)[8]

Of these 26 subregions, 10 fall partially or wholly within the Midwest (see Figures 1.6, 1.7, and 1.8):

— Northern Appalachian Coal Fields
— Lower Great Lakes Industrial
— Upper Great Lakes
— Dairy Belt
— Central Corn Belt
— Southern Corn Belt
— Southern Interior Uplands
— Ozark-Ouachita Uplands
— Southern Great Plains
— Northern Great Plains

Data at this scale reveal a variety of clear patterns among these 10 subregions. Population and migration changes for the metropolitan and nonmetropolitan counties within these subregions will be the focus.

Metropolitan counties

Figure 1.6 displays subregions where metropolitan areas are losing migrants (dotted pattern) and gaining migrants (dotted pattern). The bolder patterns indicate that outflow or inflow began or intensified betweeen this decade and the previous one; for example, heavy dots signify a higher outflow rate during the 1970s than the 1960s or a shift to net out-migration following net in-migration during the 1960s. (Data in Table 1.1, on which Figures 1.6, 1.7, and 1.8 are based, show the degree to which net out-migration or in-migration has intensified over these two periods.)

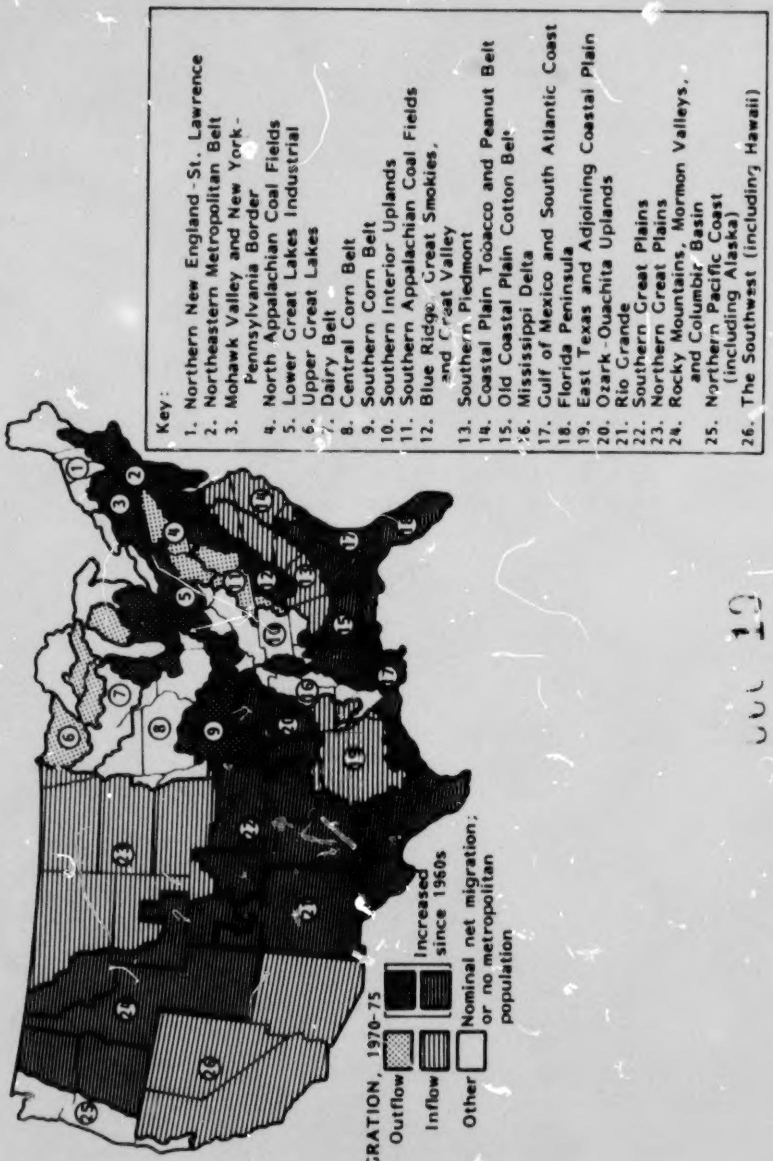

Key:
1. Northern New England-St. Lawrence
2. Northeastern Metropolitan Belt
3. Mohawk Valley and New York-Pennsylvania Border
4. North Appalachian Coal Fields
5. Lower Great Lakes Industrial
6. Upper Great Lakes
7. Dairy Belt
8. Central Corn Belt
9. Southern Corn Belt
10. Southern Interior Uplands
11. Southern Appalachian Coal Fields
12. Blue Ridge, Great Smokies, and Great Valley
13. Southern Piedmont
14. Coastal Plain Tobacco and Peanut Belt
15. Old Coastal Plain Cotton Belt
16. Mississippi Delta
17. Gulf of Mexico and South Atlantic Coast
18. Florida Peninsula
19. East Texas and Adjoining Coastal Plain
20. Ozark-Ouachita Uplands
21. Rio Grande
22. Southern Great Plains
23. Northern Great Plains
24. Rocky Mountains, Mormon Valleys, and Columbia Basin
25. Northern Pacific Coast (including Alaska)
26. The Southwest (including Hawaii)
MIGRATION, 1970-75
Outflow
Inflow
Other
Increased since 1960s
Nominal net migration; or no metropolitan population

Fig. 1.6. Metropolitan counties: the changing locus of migratory growth

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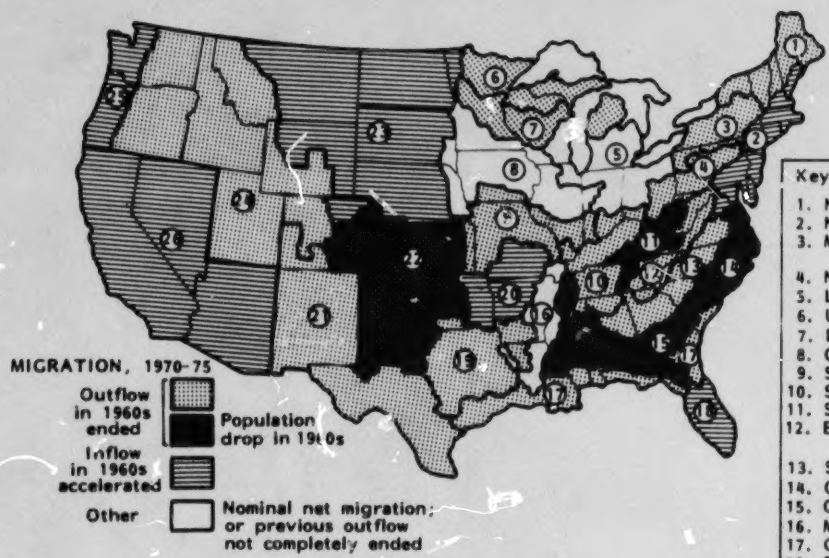
MIGRATION, 1970-75
Outflow in 1960s ended
Population drop in 1960s
Inflow in 1960s accelerated
Other
Nominal net migration; or previous outflow not completely ended
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Key:

1. Northern New England - St. Lawrence
2. Northeastern Metropolitan Belt
3. Mohawk Valley and New York - Pennsylvania Border
4. North Appalachian Coal Fields
5. Lower Great Lakes Industrial
6. Upper Great Lakes
7. Dairy Belt
8. Central Corn Belt
9. Southern Corn Belt
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21. Rio Grande
22. Southern Great Plains
23. Northern Great Plains
24. Rocky Mountains, Mormon Valleys, and Columbia Basin
25. Northern Pacific Coast (including Alaska)
26. The Southwest (including Hawaii)

Fig. 1.7. Nonmetropolitan counties (adjacent): the reversal of population loss

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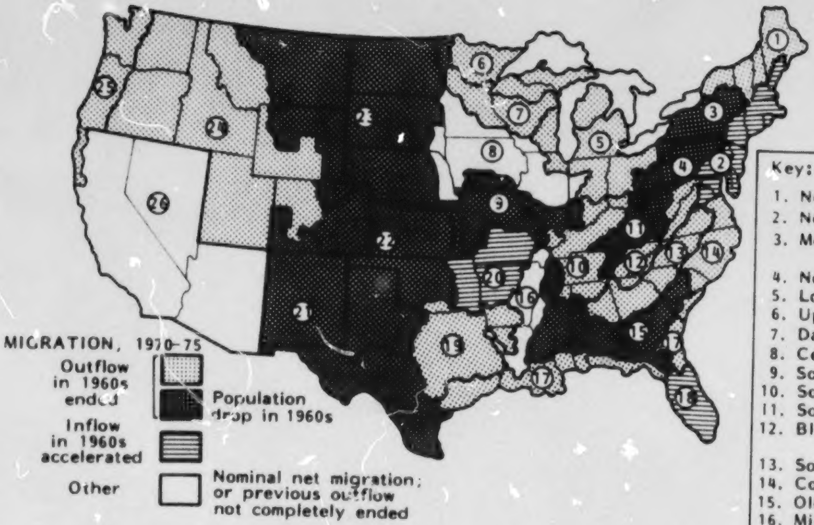
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MIGRATION, 1970–75
Outflow in 1960s ended
Population drop in 1960s
Inflow in 1960s accelerated
Other
Nominal net migration; or previous outflow not completely ended

Key:

1. Northern New England - St. Lawrence
2. Northeastern Metropolitan Belt
3. Mohawk Valley and New York - Pennsylvania Border
4. North Appalachian Coal Fields
5. Lower Great Lakes Industrial
6. Upper Great Lakes
7. Dairy Belt
8. Central Corn Belt
9. Southern Corn Belt
10. Southern Interior Uplands
11. Southern Appalachian Coal Fields
12. Blue Ridge, Great Smokies, and Great Valley
13. Southern Piedmont
14. Coastal Plain Tobacco and Peanut Belt
15. Old Coastal Plain Cotton Belt
16. Mississippi Delta
17. Gulf of Mexico and South Atlantic Coast
18. Florida Peninsula
19. East Texas and Adjoining Coastal Plain
20. Ozark - Ouachita Uplands
21. Rio Grande
22. Southern Great Plains
23. Northern Great Plains
24. Rocky Mountains, Mormon Valleys, and Columbia Basin
25. Northern Pacific Coast (including Alaska)
26. The Southwest (including Hawaii)

Fig. 1.8. Nonmetropolitan counties (nonadjacent): the reversal of population loss

Table 1.1. Components of population change for 10 Midwestern Economic Subregions, by metropolitan-nonmetropolitan status: 1960-1970 and 1970-1975

Economic subregion	Preliminary 1975 population (000's)	Percentage change in population 1960-1970	Percentage change in population 1970-1975	Net migration rate 1960-1970	Net migration rate 1970-1975
4. *North Appalachian Coal Fields*					
Total	6,602	0.0	0.6	-6.3	-0.8
Metropolitan	4,214	-0.1	-1.0	-6.2	-2.2
Nonmetropolitan	2,388	0.2	3.7	-6.4	1.6
Adjacent	1,618	0.6	3.6	-5.7	1.7
Nonadjacent	770	-0.4	3.9	-7.9	1.6
5. *Lower Great Lakes Industrial*					
Total	31,128	12.7	1.3	0.2	-2.7
Metropolitan	27,058	13.1	1.0	0.3	-3.1
Nonmetropolitan	4,070	10.2	3.9	-0.8	-0.0
Adjacent	3,721	10.0	3.7	-0.8	-0.2
Nonadjacent	349	12.5	6.0	-0.2	1.3
6. *Upper Great Lakes*					
Total	1,549	4.3	9.1	-3.5	7.0
Metropolitan	280	-3.4	-1.0	-10.3	-2.6
Nonmetropolitan	1,268	6.4	11.6	-1.6	9.5
Adjacent	163	6.0	10.3	-1.6	8.2
Nonadjacent	1,105	6.4	11.8	-1.7	9.6
7. *Dairy Belt*					
Total	3,771	15.7	4.9	3.0	1.2
Metropolitan	2,352	22.7	3.9	7.0	-0.6
Nonmetropolitan	1,420	5.5	6.8	-3.0	4.3
Adjacent	724	4.9	6.8	-2.6	4.4
Nonadjacent	696	6.1	6.8	-3.5	4.2
8. *Central Corn Belt*					
Total	7,024	5.3	1.7	-4.6	-1.2
Metropolitan	3,110	12.6	4.0	-0.6	-0.2
Nonmetropolitan	3,914	0.4	0.0	-7.2	-1.9
Adjacent	2,047	2.6	0.8	-5.3	-1.4
Nonadjacent	1,867	-1.9	-0.9	-9.2	-2.5
9. *Southern Corn Belt*					
Total	7,099	7.3	0.2	-1.4	-2.3
Metropolitan	4,850	11.7	-0.5	0.1	-4.0
Nonmetropolitan	2,248	-1.2	1.8	-4.2	1.4
Adjacent	1,042	2.7	3.6	-1.4	2.5
Nonadjacent	1,207	-4.1	0.3	-6.4	0.4
10. *Southern Interior Uplands*					
Total	6,935	11.1	4.6	0.4	1.2
Metropolitan	3,869	14.5	3.7	1.8	-0.4
Nonmetropolitan	3,066	7.1	5.9	-1.4	3.2
Adjacent	1,453	9.2	6.6	-1.2	3.2
Nonadjacent	1,613	5.3	5.2	-1.5	3.2

Table 1.1. (continued)

Economic subregion	Preliminary 1975 population (000's)	Percentage change in population 1960-1970	1970-1975	Net migration rate 1960-1970	1970-1975
20. *Ozark-Ouachita Uplands*					
Total	3,015	13.7	10.9	5.9	8.1
Metropolitan	1,293	17.8	11.9	6.4	7.4
Nonmetropolitan	1,722	10.8	10.2	5.5	8.5
Adjacent	738	10.3	10.8	4.2	8.9
Nonadjacent	984	11.1	9.7	6.4	8.3
22. *Southern Great Plains*					
Total	4,373	3.4	5.2	-8.2	1.3
Metropolitan	2,147	15.0	8.1	-0.3	2.3
Nonmetropolitan	2,226	-5.4	2.5	-14.1	0.3
Adjacent	919	-5.8	3.9	-14.1	2.0
Nonadjacent	1,307	-5.1	1.5	-14.1	-0.9
23. *Northern Great Plains*					
Total	4,258	7.4	7.2	-4.5	3.3
Metropolitan	1,697	27.9	11.7	12.6	6.7
Nonmetropolitan	2,561	-2.4	4.4	-12.6	1.2
Adjacent	398	12.7	14.5	2.7	11.2
Nonadjacent	2,163	-4.5	2.7	-14.8	-0.5

The metropolitan Midwest has registered a widespread although not universal worsening of migration trends. In the highly urbanized Lower Great Lakes Industrial subregion (No. 5) and the Southern Cornbelt (No. 9), net out-migration has brought metropolitan population growth essentially to a halt. In the Dairy Belt (No. 7), the cessation of previous net in-migration has sharply curtailed such growth. In the less urbanized Southern Great Plains (No. 22) and the Ozark-Ouachita Uplands (No. 20), however, migration trends have improved, accelerating the growth of metropolitan population there.

Nonmetropolitan counties

The strong revival of population growth in nonmetropolitan areas in the 1970s reverses a long history of net out-migration. Several influences, often mutually reinforcing, help explain it:

— *Ease of access to the national metropolitan economy.* Metropolitan outcroppings have appeared in remoter areas along new or expanded transportation routes—an evolution of metropolitan spatial form that gives rise to new urban nodes.

— *Industrial trends.* Manufacturing has decentralized in response to reduced transportation costs, inexpensive land, and low wage rates in nonmetropolitan areas; and energy extraction has revived in certain areas.

— *Changes in life-style.* The trend toward earlier retirement and semi-retirement has multiplied the ranks of retirees and lengthened the interval during later life when a person is no longer tied to a specific place by a job. New sources of income, such as pensions, have added to retirees' mobility and, in an increasingly service-oriented society, they create markets wherever they go. Additionally, people of all ages are pursuing leisure activities in amenity-rich areas outside the daily range of metropolitan commuting.

Together, these changes have laid a broad foundation for growth in nonmetropolitan areas. Servicing the arriving migrants and temporary residents provides opportunities that induce existing residents to stay and entice more newcomers. Although circumstances vary from place to place, the outcomes are much the same: Initial base employment opportunities, however created, furnish the jobs that retain existing residents and draw opportunity-seeking migrants from elsewhere. The resulting population, larger and more affluent, enlarges local demand for goods and services, and creates new jobs that attract still more migrants.[9]

A number of areas are neither clearly rural nor clearly urban. The federal distinction between metropolitan and nonmetropolitan was designed to reflect the presence or absence of social and economic integration into city life that is conferred by residence in a particular location. But the definitions are not rigorous in application. Many residents of adjacent "nonmetropolitan" counties are functionally "metropolitan." They live more like city-dwellers than country people.

The data in Figure 1.7 distinguish this "disguised metropolitan growth" within each subregion. In these areas adjacent to the nation's metropolitan centers, the pervasiveness of renewed growth is evident. During the 1960s, fully 7 of the 10 midwestern subregions registered more than a nominal rate of net migration loss in the "nonmetropolitan adjacent" sector. In the Southern Great Plains, that loss was severe enough to produce absolute population decline despite the moderately high birth rates in that decade. Yet in the 1970s, net migration has become distinctly more positive (or less negative) in 9 of these 10 subregions.

This cessation of previous, often severe out-migration from the "nonmetropolitan adjacent" sector suggests that metropolitan growth continues, although perhaps not always within the arbitrary boundaries of SMSAs. The true picture undoubtedly is more complex than these data can reveal and does not lend itself to simple generalizations. Judging from the pervasive growth trends here, however, it is reasonable to infer that, throughout most of the Midwest, the "exurban" sector has fallen more heavily under the sway of metropolitan influence in the 1970s than before.

Population trends in the "nonadjacent" sector reflect developments in areas located beyond the immediate sphere of daily metropolitan life. Such counties by no means lack sizable urban centers; but by definition such centers are below the minimum 50,000 population threshold that qualifies an urban county as a metropolitan one. In all cases, however, these smaller cities and towns are not near a metropolitan area.

The pattern of change for "nonmetropolitan nonadjacent" counties, shown in Figure 1.8, closely resembles the pattern in the adjacent sector. In the 1960s, the "nonmetropolitan nonadjacent" sector was losing migrants at more than a nominal rate in all but 2 of the 10 midwestern subregions, and that loss was severe enough to incur absolute population decline in 5 of them. By the 1970s, that outflow had ended virtually everywhere, eradicating the decline of the past or accelerating growth. Only the Central Corn Belt (No. 8) failed to register any growth in this sector.

The Upper Great Lakes region (No. 6) is a good example: Its annual net migration rate shifted from a 0.2-percent outflow during the 1960s to a 1.7-percent inflow during the 1970s; and the population's growth rate rose from 0.6 percent annually to 2.1 percent.

Clearly, the pattern of U.S. settlement has evolved beyond the point where nearness to a metropolis is a prerequisite to local migratory growth. Metropolitan spillover is being supplemented by self-contained local urbanization, even in remote reaches of the nonmetropolitan Midwest.

A more balanced pattern of growth

The Midwest, as Beale and Fuguitt have noted, exhibits a central demographic paradox: Despite the record-low rate of growth in the region's population, more counties within the region are registering population growth than at any previous time in this century. The more balanced (i.e., spatially more uniform) pattern of growth gives rise to new and varied future possibilities for nonmetropolitan areas.

First, the new migrant influx to nonmetropolitan areas signals emerging strengths and new opportunities for economic development in areas that previously lost residents. The forces behind this spontaneous growth merit close examination to see if they can be enlisted in the aid of other, still distressed, areas as part of conscious policy. The bases of growth of nonmetropolitan population in the Ozark-Ouachita Uplands, for example, may include activities that are now feasible in other regions.

Second, the changed prospects for economic development reflected in and brought about by this influx have an important bearing on the targeting of development assistance, and the specific type of assistance called for. For example, places in which population grows through natural increase cannot necessarily be equated with those in which population grows exclusively through an influx of migrants (even though their growth rates might be identical). Whereas the former type of place may retain most of its prime working-age population, the latter may be undergoing demographic recomposition, with arriving retirees replacing departing young adults. Clearly, a new manufacturing firm scouting labor markets would favor the former, while an entrepreneur looking for a location in which to build a resort complex may prefer the latter.

Outlook for the future

In looking ahead, the direction that migration will take is a key uncertainty. Will the exodus from the ENC intensify and that from the WNC halt altogether? What of the fortunes of metropolitan and nonmetropolitan areas? There are no sure answers here, of course, for the stubbornly uncertain future resists precise prediction. It is possible, however, to identify relevant uncertainties so that our judgment about the future will be informed. We must recognize that migration patterns are inherently changeable. The constantly shifting spatial distribution of economic opportunity to which net migration flows respond lies largely beyond predictive reach. Moreover, regional migration trends are a complex amalgamation of primary and return movement, and the Midwest, with many ex-residents elsewhere, is susceptible to sizable future flows of return migration and hence future growth.

A major uncertainty is whether the reversal of the prolonged historical out-migration from nonmetropolitan areas that appeared in the 1970s will be temporary or long-lasting. The reasons for this reversal are multifaceted and incompletely understood; multiple causes are at work, and in different ways in different places. Much of the shift has coincided with and may be due in some measure to the economic recession of the early 1970s. To the extent that it is, a resumption of metropolitanward migration would be expected with improvement in the economy; but although the economy has now improved, the shift has persisted through the most recent period measured (1975-1978),[10] giving it the appearance of more than a merely temporary episode (as was its one historical counterpart during the 1930s Depression).

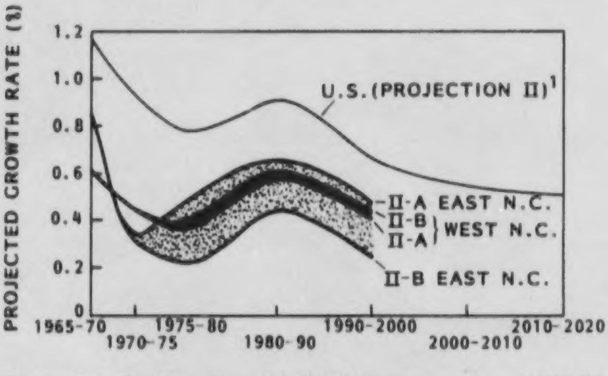
In looking ahead, we must recognize that what is taking place is neither a statistical quirk nor a momentary phenomenon. Also, we must understand the various, somewhat contradictory, influences that condition the likely longevity of these trends. In a perceptive recent essay, Alonso has called attention to the following considerations [1]:

1) A trend that is sure to persist is the continuing expansion of urban activities and influence beyond the boundaries of metropolitan areas, a trend that accounts for much of the decline of those areas.
2) The number of retired people will continue to increase. Many of them migrated to cities from rural areas originally, and are now free to go back.
3) The ruralization of labor-intensive manufacturing may have passed its peak. The total number of production workers in manufacturing is steady, and it appears unlikely that metropolitan areas will lose very much more of their labor force.

4) A reviving economy should bring continued growth in recreation industries, and the outlook remains bright for employment in mining, energy, environmental and resource improvements, and associated construction.
5) Agricultural employment is virtually certain to continue to decline.
6) As the economy recovers, some of the return migration that usually occurs in hard times will reverse once again.
7) The energy crisis and the ways in which we cope with it may affect several of these trends. The expansion of the urban field partly depends on the cost of moving people and goods; transportation for its clients is crucial to much of the recreation industry; and, because of low densities and long distances, residents of rural areas and small towns consume large amounts of energy.

On the basis of these considerations, Alonso foresees a continuation of the halt in the overall growth of metropolitan areas and of the gain in areas designated as nonmetropolitan.

The Census Bureau's newly prepared state population projections furnish another perspective on where these new trends might lead (Figure 1.9) [24]. The Bureau presents three different projection series that share common assumptions concerning projected fertility and mortality.[11] Where they differ is in their assumptions about net interstate migration. Series II-A assumes that the migration patterns observed from 1965 through 1975 will persist to the year 2000; Series II-B assumes continuation of 1970-1975 migration patterns; and Series II-C (a projection that is useful more for illustration than for forecasting) assumes no net migration after 1975. (These projections do not distinguish between metropolitan and nonmetropolitan areas.)



[1] Projection Series: II = 2.1 births/woman, A = 1965-75 migration continues B = 1970-75 migration continues

Fig. 1.9. Census projections of the continued lag in the Midwestern growth rate

Projections II-A and II-B quantify two visions of how the Midwest's overall demographic future may unfold (assuming, of course, continued low fertility). The assumptions of Series II-A furnish a sounder technical basis for long-range forecasting (e.g., to 2000), because they incorporate a longer segment of the recent historical trend in migration. The assumptions of Series II-B are more suitable for near- or intermediate-term forecasting (e.g., through 1985), because they rest on a more recent, albeit short, segment of that trend.

If you are skeptical about how permanent the regional migration patterns of the 1970s will be, Series II-A will accord more closely with your views. If you regard the 1970s trend as the wave of the future, then Series II-B will accord more closely with your views. These projections suggest that there is perhaps more uncertainty about the future course of growth in the ENC than in the WNC. In either case, however, it is apparent that the Midwest as a whole is likely to have a head start over the rest of the nation in arriving at the state of growthlessness that impends in the next century.

Conclusions

In the Midwest, as in the rest of the nation, significant transformations are under way in the population's structure and pattern of settlement. The fertility rate has declined to a level below replacement, leaving migration and the age composition of the population as the crucial factors on which the future growth or decline of localities and regions will hinge. The irregular patterns of growth and decline are already engendering persistent imbalances that compel adaptations, especially at the local level. Some localities will have to adjust their fiscal systems to property values and sales tax revenues that no longer grow, to a surplus of schools and other idle capital stock, and to changes in population mix. Other places will confront a situation of either prosperous stability or decline. Still others will experience rapid growth that they are ill equipped to cope with, and which their residents may vigorously oppose. Issues of access—by whom, to what place, and for what purpose—are likely to intensify.

Demographic analysis can elucidate the sources of strain here and strengthen the judgment that policymakers bring to their decisions. It also can draw attention to emerging and approaching issues associated with population shifts. Both judgment and foresight will be enhanced by close and continuous monitoring of trends, and by periodic diagnosis of any economic and social problems that these trends are likely to bring in their wake.

Policies that address these issues could be limited to reacting; or they could advance broad purposes; or they could promote the specific goals of some master plan. Whatever policy stance is chosen, there will be an ongoing need for facts and analysis that can focus attention on issues associated with impending demographic changes and set the stage for public debate on how to accommodate them.

NOTES

[1] The material in this chapter is based somewhat on several earlier papers prepared under grants from the National Institute of Child Health and Human Development and the Economic Development Administration. The author acknowledges assistance from Will Hariss, Mark Menchik, and Judith Wheeler with respect to earlier drafts.

[2] This section is based on the author's Overview of Demographic Trends Shaping the Nation's Future [17] and McCarthy and Morrison [17]. See also Espenshade and Serow [6] and Westoff [26].

[3] Details on each projection series are given in U. S. Bureau of the Census [23]. Although a number of uncertainties cloud the outlook for national population growth, they are well-defined uncertainties and there is a substantial body of evidence on which to base an informed judgment. In the present author's judgment: (1) the long-term trend of fertility is very unlikely to rise above 2.7 births per woman (corresponding to Census Series I); (2) it seems plausible, on the other hand, that growth could diminish to a level below that depicted in Series III; (3) annual growth rates are almost certain to become more volatile as couples exercise more effective control over whether and when to have children in response to economic conditions.

For further discussion of these issues, see Butz and Ward [3], Campbell [4], Gibson [9], Rindfuss and Bumpass [18], Sklar and Berkov [19], and Westoff [26, 27].

[4] For further elaboration, see Bednarzik and Klein [2], Hayghe [10], Miller [16], and Johnson [11].

[5] Between 1960 and 1970, the 1,500 nonmetropolitan counties that were not adjacent to a metropolitan area (1974 definition) incurred a net migration loss of 2.3 million from a 1965 population base of 26.2 million. Between 1970 and 1975, such counties registered a net migration gain of 0.7 million. In absolute terms, then, this reversal has been relatively minuscule: from an annual net outflow of about 230,000 during the 1960s to an annual net inflow of about 130,000 during the first half of the 1970s.

[6] For additional background, the following studies will be useful: the Beale and Fuguitt chapter in this book, Fuguitt and Beale [8], and Michigan State University [15].

[7] These data and most of the other figures in this section of the chapter are drawn from Fuguitt [7].

[8] Being in summary form for each analytical type, the data implicitly weight the "average" county of that type by its population. As an illustration, a hypothetical subregion might contain 10 metropolitan counties, one with a population of one million and the other nine with a

combined population of 500,000. If the former county lost 10,000 residents through net migration and the latter nine gained 1,000 residents each, the metropolitan *type* would register a net loss of 1,000, even though most metropolitan counties had experienced inmigration.

[9] The varied circumstances under which such growth is taking place in the Midwest have been examined in several recent studies. In addition to works in this book, see: Fuguitt and Beale [8], Michigan State University [15], and Fuguitt [7], Dorf and Hoppe [5], Lambert [12], Marans et al. [13], Tordella [20, 21, 22], Wang and Beegle [25], Williams and McMillen [28], Williams and Sofranko [29], and Zuiches and Rieger [30].

[10] During that period, migrants to the metropolitan sector were outnumbered by those moving out by a ratio of 5 to 4.

[11] These assumptions are derived from the fertility and mortality assumptions of Series II of the Bureau's current set of national population projections. See U.S. Bureau of the Census [23].

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CHAPTER TWO

GEOGRAPHICAL SHIFTS IN MIDWESTERN POPULATION IN THE TWENTIETH CENTURY

John R. Borchert

This chapter reviews post-1970 population shifts in the Midwest in the perspective of long-run trends since 1920. The period since 1920 is the latest epoch, and probably the last, in a 150-year era of cheap fossil fuel in the United States. Now the nation is surely entering a new era, triggered by the rising cost of energy and raw materials and the gradual, groping development of new energy sources.

In that setting, the chapter explores two complementary questions. Do the trends of the early 1970s foreshadow a new shape of the midwestern settlement pattern in an emerging new era? Or do recent shifts reflect in part the playing out of long-term trends initiated early in this century by the internal combustion engine and in part short-term fluctuations associated with unique, catastrophic events—most notably the post-World War II baby boom?

The Metropolitan Framework

To describe the pattern of population shifts since 1920, we can divide the map of the Midwest into three zones based on degrees of metropolitan accessibility. Those zones are shown in Figure 2.1.

One zone consists of the 75 Standard Metropolitan Statistical Areas (SMSAs) of the U. S. Census. Each SMSA is a county or group of counties containing a major city and suburbs. Ten of the metropolitan areas are among the high-order SMSAs of the United States [7]. Each is the home of more than a million people. The others are low-order metropolitan areas—their populations range from about 60,000 to 750,000. Many of the metropolitan areas are contiguous; the suburbs of one abut the suburbs of another, and they cluster in a few concentrations across the map of the region.

The second zone in Figure 2.1 includes the counties outside the SMSAs which, nevertheless, lie within the metropolitan commuting zone [1]. These counties comprise the outer commuting zone. Their economies may be dominated by farming or forestry, but the commuting residents affect the county income, age level, and growth rate.

The third zone includes the truly nonmetropolitan counties—the farm, forest, mine, and resort areas centered on the smaller cities and towns of the region.

The map shows that many of the commuting zones overlap. Counties of neighboring metropolitan areas are partly—sometimes almost entirely—within each other's commuting zones. Hence, some parts of the Midwest are sprawling clusters of SMSAs and at-

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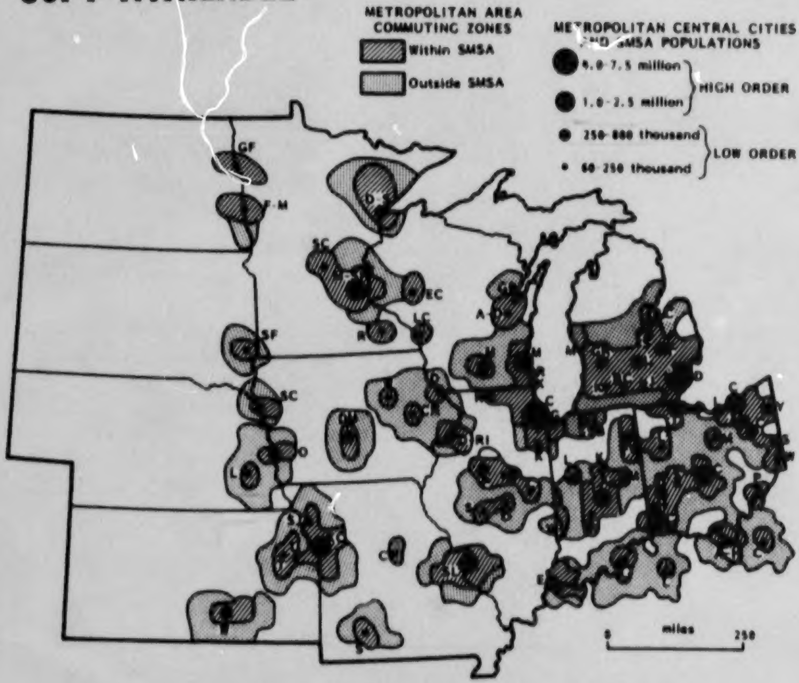
METROPOLITAN AREA COMMUTING ZONES
Within SMSA
Outside SMSA
METROPOLITAN CENTRAL CITIES AND SMSA POPULATIONS
5.0-7.5 million
1.0-2.5 million
HIGH ORDER
250-800 thousand
50-250 thousand
LOW ORDER
GF
F-M
D
SC
EC
SF
R
LC
GB
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Fig. 2.1. Zones of metropolitan accessibility in the Midwest

Sources: U.S. Bureau of the Census [20] and Berry and Gillard [1].

tached outer commuting zones. On the traffic maps they are webs of interlocking and overlapping trips to work, trade, or recreation.

About sixteen million of the Midwest's population live in the central counties of the 10 high-order metropolitan areas, about 24 million in the remaining counties of the 75 SMSAs. Another seven million live in the outer commuting zones of the SMSAs, and the remaining 10 million-plus live in the other nonmetropolitan counties.

A Legacy from the Railroad Epoch

To an important degree the metropolitan pattern shown in Figure 2.1 is a legacy from the railroad epoch.

As the railroads followed the advancing frontier across the Midwest, the main lines evolved in bundles or corridors linking the great commercial cities (Figure 2.2). The midwestern corridors were at first part of a national system of rail feeders and water arteries focusing on New York and New Orleans [5]. The great commercial cities of the Midwest were the ports at critical locations on the Great Lakes and Ohio-Mississippi-Missouri system.

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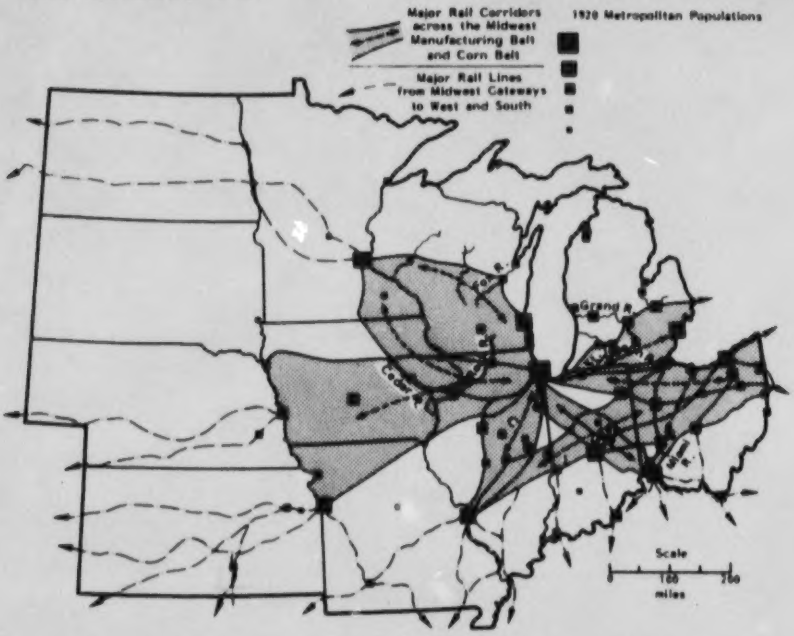
Major Rail Corridors across the Midwest Manufacturing Belt and Corn Belt
Major Rail Lines from Midwest Gateways to West and South
1920 Metropolitan Populations
Grand R.
Cedar R.
Scale
0
100
200
miles

Fig. 2.2. Major rail corridors and metropolitan areas in the Midwest, 1920

Note: Edges of each corridor are the outer-most of the bundle of rail lines connecting metropolitan areas at either end of the corridor.

Within the major rail corridors between the great, high-order commercial cities, lower-order metropolitan centers grew where there were important resources of water power, coal, oil, and gas. Thus there emerged very early the familiar clusters of urban centers along the Grand and Kalamazoo rivers in southern Michigan, the Cuyahoga and the Mahoning in northeast Ohio, the Miami in southwest Ohio, the Rock in northern Illinois and southern Wisconsin, and the Cedar in eastern Iowa. Equally familiar clusters emerged on the western Indiana-central Illinois coal fields and the old Lima-eastern Indiana oil and gas fields.

As the railroads grew in speed and capacity and took an overwhelming dominance of the national transportation system, those same corridors persisted and reinforced the initial metropolitan centers.

Meanwhile, zones of influence developed around the major urban centers. Milk trains and dairy farming interacted to define the metropolitan milksheds. Weekly commuters rode the milk trains to seasonal or irregular jobs or trade schools in the cities. Satellite manufacturing plants grew along the main line railroad sidings within one or two hours of city home offices. In general the tractor encouraged fewer and bigger farms. But in these zones of frequent city contact and interaction, farm size increased slowly or not at all [9, 10]. Not only dairying but also supplemental off-farm income opportunities were surely helping to buck the trend toward bigger farms so pervasive in the rest of the Corn Belt.

By the turn of the century the importance of these latent commuter zones and urban clusters was enough to stimulate the investment of a billion dollars (ten billion translated into 1979 equivalents) in the electric interurban railway network shown in Figure 2.3 [38]. To be sure, the density of the interurban network decreased from east to west, from the older cities to the newer, and from the larger metropolitan areas to the smaller. That pattern probably reflected similar variations in intensity of development of the outer zones of influence and interaction around the major cities at that time.

The major centers of industrial employment in 1929 still reflected the pattern of the great ports, the main rail corridors, and the critical resource locations in those corridors [4]. The map in Figure 2.4 shows extreme concentration at the great industrial-commercial metropolitan centers. More than one-fourth of the industrial jobs in the entire North Central states were in six coun-

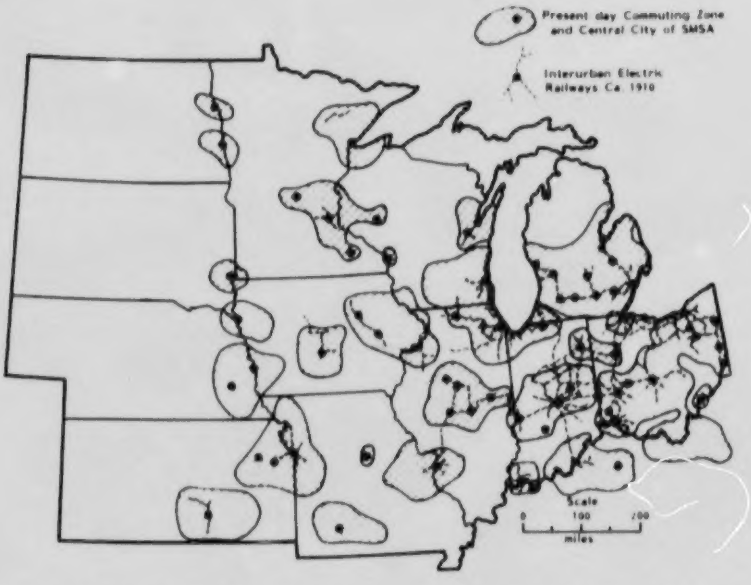
Present day Commuting Zone and Central City of SMSA
Interurban Electric Railways Ca. 1910
Scale
0
100
200
miles

Fig. 2.3. Electric inter-urban railways and today's metropolitan commuting zones

Sources: Berry and Gillard [1] and Walmsley [38].

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ties. On the other hand, the same map shows that the process of dispersion around the major centers had already brought significant basic manufacturing to farm trade centers in scores of counties. In general, the larger the metropolitan industrial concentration, the more extensive the dispersal around it.

Thus one could argue that by the 1910s the milksheds, electric interurban lines, and satellite industries foreshadowed the coming outer commuting zones that girdle the metropolitan areas in the automobile epoch.

Shifts from the Rail Legacy

Since the 1920s the automobile-tractor cheap-oil technology has dominated the circulation system. Given that technology, midwestern settlement has shifted toward a new optimal pattern. The shift has been limited, of course, by the rate of investment in replacement construction, the gradually declining population growth rate in the region as a whole, and the need for each household to compromise, in its own way, between the desire to

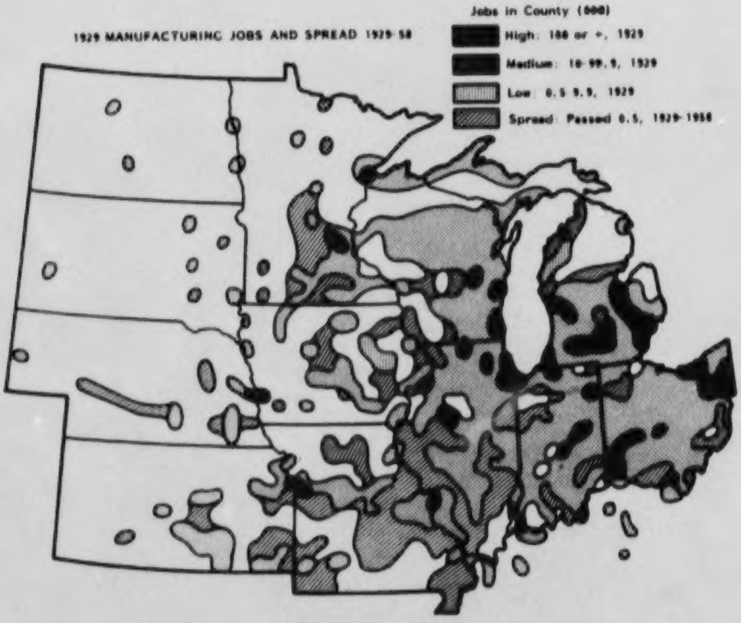
1929 MANUFACTURING JOBS AND SPREAD 1929-58
Jobs in County (000)
High: 100 or +, 1929
Medium: 10-99.9, 1929
Low: 0.5-9.9, 1929
Spread: Passed 0.5, 1929-1958

Fig. 2.4. 1929 manufacturing jobs and spread 1929-58

Source: Borchert [4].

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participate in an exchange economy and the desire to increase its personal living space. Nevertheless, the shift in pattern has been as inexorable as the glaciers that over-rode most of the region in the ice ages.

The spread of manufacturing

The spread of manufacturing employment since the 1920s shows two major trends: (1) the concentration of growth at the newer, large commercial metropolitan areas in the western part of the Corn Belt; and (2) the spread of industry from the larger cities to county seat farm trade centers, westward across most of the Corn Belt. There was obviously a move to the labor surplus areas, the farm markets, and the local entrepreneurs of the countryside as well as to the newer metropolitan markets.

Most of the advance of the industrial frontier took place from the 1920s to the 1950s. It is not a recent phenomenon. Thus the map in Figure 2.5 shows relatively little geographical expansion in the

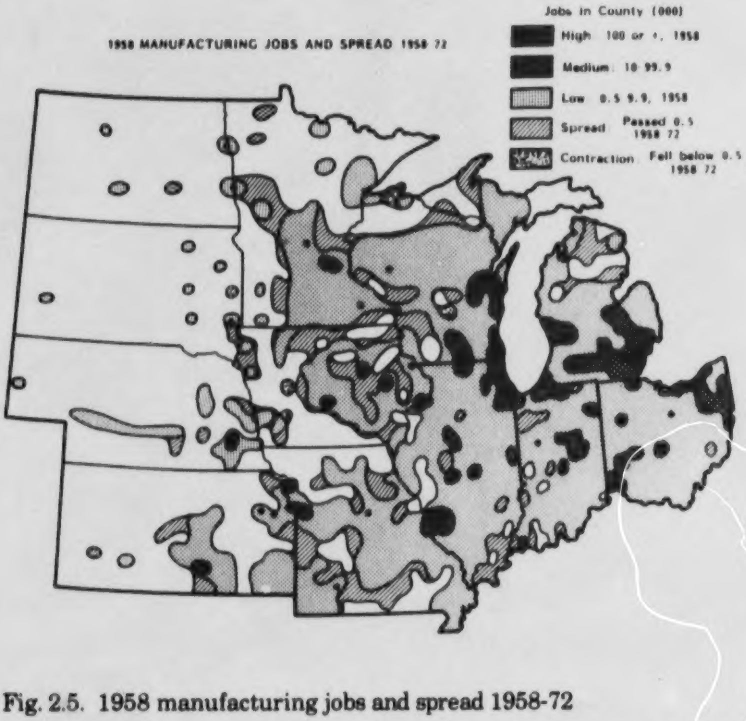
1958 MANUFACTURING JOBS AND SPREAD 1958-72
Jobs in County (000)
High: 100 or +, 1958
Medium: 10-99.9
Low: 0.5-9.9, 1958
Spread: Passed 0.5 1958-72
Contraction: Fell below 0.5 1958-72

Fig. 2.5. 1958 manufacturing jobs and spread 1958-72

Sources: 1972 data from U.S. Bureau of the Census [20] and Borchert [4].

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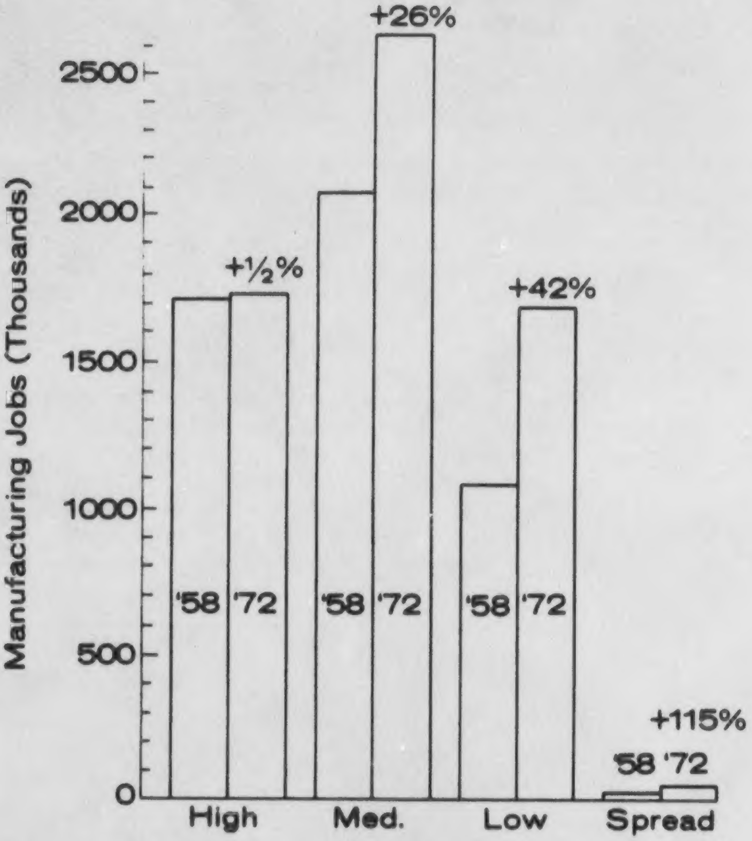

Fig. 2.6. Concentration of 1958-1972 growth of manufacturing employment within areas of medium-and low-density manufacturing development in 1958

Sources: Borchert [4], U.S. Bureau of the Census [18,20].

1960s and 1970s. But the graph in Figure 2.6 shows the major decentralization within the established areal framework after the 1950 recession. Older industrial districts within the six great concentrations at Cleveland, Cincinnati, Detroit, Chicago, Milwaukee, and St. Louis showed an almost imperceptible expansion. Meanwhile the rapid new growth of the subsequent years has shifted to the suburbs of the high-order centers and to the small cities—to relatively expensive open land highly accessible to the major markets or less accessible but substantially cheaper land and labor in the countryside.

The spread of urban population

In absolute numbers, the growth of midwestern population since 1920 has been essentially within the metropolitan areas and their present-day commuting zones, with little elsewhere. Counties in the SMSAs and commuter zones have grown from 24 million to 46 million. Meanwhile, population in the remainder of the region was slightly more than 11 million in 1920, slightly under 11 million in 1975.

The graph in Figure 2.7 shows the population trends in each of four groups of counties classified according to metropolitan size and accessibility. Four main points emerge from the graph. (1) Growth in the suburban counties and the low-order metropolitan areas has been consistently the strongest, especially in the 1950s. (2) The counties of the outer commuting zones—though technically "nonmetropolitan"—have grown consistently, with the most growth since 1950. (3) The nonmetropolitan counties outside the commuting zones lost population in the first three decades of the tractor epoch but have gained since 1950. (4) The central counties of the ten high-order SMSAs, although gaining steadily until 1970, were gaining much slower than the suburban and low-order metropolitan counties after 1930 and actually declined after 1970.

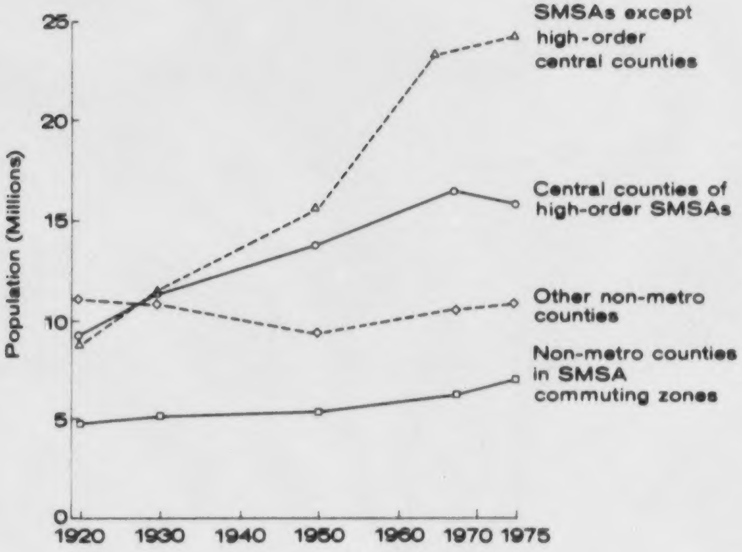

Fig. 2.7 Population growth trends in different classes of metropolitan size and accessibility.

Sources: U.S. Bureau of the Census [17, 19, 20, 22].

An important perspective is added if you consider percentage rates of change rather than absolute changes. Three main points are apparent in Figure 2.8. First, there was a general falling trend in average decennial growth rates throughout the 55 years from 1920 to 1975 in the metropolitan areas generally, and in core counties of the high-order SMSAs particularly. On the other hand, there was an average rising trend in the nonmetropolitan counties, both within the commuting zones and outside. Finally, the trends for all four groups of counties were more or less unstable. They were affected by the economic boom of the 1920s, the great depression and World War II, the post-World War II boom, and an interesting conspiracy of events since then.

There were important variations in the stability, or steadiness, of these 55-year trends. The steadiest decline in growth rates has been in the high-order metropolitan cores. The cores were less affected than the suburbs and smaller metropolitan areas by the baby boom. The steadiest increase in growth rates has occurred in the outer commuting zones, which were less affected by the early tractor-epoch increase in farm size and consequent reduction of farm population; and they were also less affected by the sharp growth of multicounty diversified farm trade centers in the 1950s.

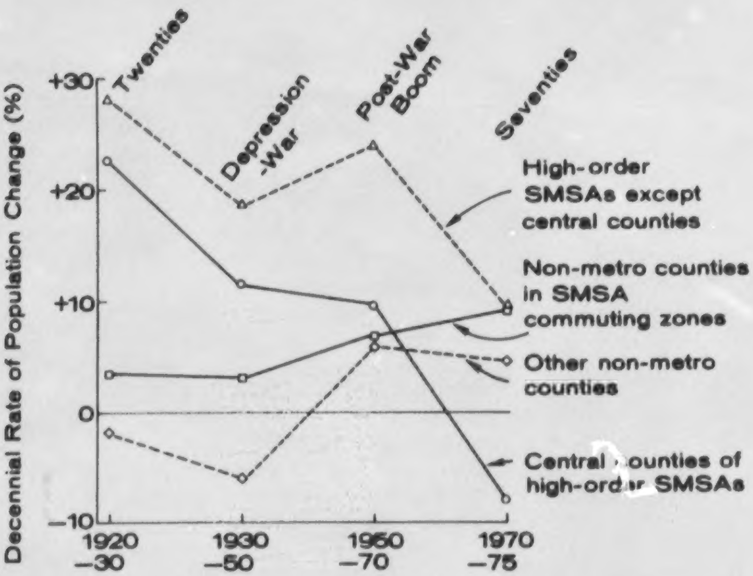

Fig. 2.8. Trends in average decennial rate of population change in different classes of metropolitan size and accessibility

Sources: U.S. Bureau of the Census [17, 19, 20, 22].

David Borchert and James Fitzsimmons have published maps of county population changes in different intercensal periods from 1920 to 1975 [2]. Their maps reflect this same combination of long-term trends and short-term variability. The maps reflect the growth and economic diversification of small cities; reduction of density in the largest, most congested cities; enlargement of full-time farms and increase in part-time farming; and growth in the number of households who could extricate themselves from the urban web for more personal space and natural amenities.

Each of the Borchert-Fitzsimmons maps shows many exceptions to these general trends, scattered widely across the region. Different counties provide the exceptions in different years. Those exceptions, again, express short-term, randomly distributed variations within the changing system. Such variations constantly bombard and pockmark the broad patterns on the maps, and they constantly ruffle historical trend lines.

It must be emphasized that the general trends are not new. They have obviously been running for half a century. They have affected different places in different degrees at different times. But all have affected many places at any time. The aggregate effect has been clear, and as consistent as one could expect given the endless battering of short-term, random, catastrophic happenings.

Forces behind the observed long-term trends

Five main forces deserve emphasis as one looks behind these shifting patterns of population and settlement.

First, take the background of a gradually declining regional growth rate. There has been a steady out-migration from the Midwest's overwhelmingly white population for a century. The outflow was reversed only in the 1910s and 1920s with the surge of manufacturing growth in the East North Central states accompanying the initial development of the automotive and related industries. The outflow has accelerated greatly since the mid-1960s, when the baby boom generation entered the age bracket of maximum personal mobility. This present episode may end in the mid-1980s when that large group of people moves into another age bracket and gets to wherever it's going. The native white outflow was also partly masked between 1920 and the late 1960s by the spectacular net inflow of blacks and whites from the rural middle South.

This large and persistent net out-migration from the Midwest simply reflects the fact that the development of the Manufacturing Belt and the Corn Belt were the beginning of the urban and industrial development to the whole nation, and the engines for it, but not the end of it. The Midwest has provided a massive share of the human and material resources and the capital to build the West and the South and the circulation network that brought those areas into the national system over the past century. This outflow of capital is simply a powerful piece of evidence that America is a nation and the Midwest has been an extremely important part of it.

Second, take the growth and economic diversification of the small cities and their neighboring hamlets. The automobile made fewer but much bigger trade areas in the countryside [6]. The multicounty diversified farm trade centers reached the threshold for new types of business which had not been there before. The small, general-store hamlets, like the neighborhood grocery corners in the cities, were transformed into specialized sub-centers within a widened and intensified circulation network. Manufacturing industries dispersed at a faster rate than ever to utilize the rural labor force in its home setting. And, during the tractor epoch, there was a fitful but inescapable two- to three-fold increase in real farm purchasing power per square mile of trade area [21, pp. 464, 480-481]. Thus the trade areas increased drastically in both their size and their wealth. The economic base literature indicates that the ratio of service to basic jobs grows in proportion to city size and income [12, 13]. Thus the auto and tractor meant that in the long-run the curve of declining farm population had to cross the curve of rising urban-type employment in the so-called rural Corn Belt.

Third, take the growth in number of households that could escape the urban web for prolonged periods. Perhaps the most powerful factor has been the growing importance of transfer payments in the American economy during this same period—welfare, federal and state aids, pensions, and so on. Personal income from transfer payments rose between 1950 and 1974 from 15 billion to 140 billion dollars annually, from less than 7 percent of the GNP to 12 percent. Transfer payments plus interest payments rose from 10 percent of the GNP to 20 percent [29, Table 701, p. 435]. Add to this the growing number of footloose occupations. Minnesota's central lake region has an ever-growing population of travelling salesmen, airline pilots, manufacturers representatives, vending machine operators, inventors, and many others whose occupations would challenge the most brilliant apologist for the Standard Industrial Classification code.

Furthermore, that population is not a new phenomenon. It was beginning to show up on the county population change map in the 1950s. Their characteristics and motivations as shown in a 1961 Upper Midwest Council study were precisely the same as those that are revealed in subsequent and recent surveys [11].

Perhaps the most important factor in many rural counties has been the indirect impact of intergovernmental transfers. School aids, welfare aids, highway aids, farm programs, and general revenue sharing translate mainly into not only the enlargement but the decentralization of government payrolls. Since 1930 the county seat bureaucracy has become an important part of urban America, even more so in the agricultural heartland. In Minnesota, state and federal aids to local governments equal more than 5 percent of personal income in 85 of 87 counties, more than 10 percent in more than half the counties, 20 to 30 percent in some northern counties [8]. And these state and federal aids represent in virtually all states a transfer of income from the metropolitan to the nonmetropolitan areas—a transfer which is, of course, generally logical and closes only a small fraction of the income gap between these different areas.

Fourth, take the enlargement of full-time farms and consequent general thinning of population in the purely farm counties. To be sure, that has been an obvious result of the tractor and cheap oil; and it has been a major underlying cause of the urbanization of the midwestern countryside. But the important point today is that the epoch is now essentially ended. The difference between the observed 1970 farm population and what that population would have been if the progeny of the 1920 farm folks had stayed on the farm was 59 million.[1] That kind of net shift cannot be duplicated with the national farm population having dropped from 32 million in 1920 to less than 8 million today.

Fifth, take the reduction of density in the largest, most congested cities. The out-migration from the central counties of metropolitan Cleveland, Cincinnati, Detroit, Chicago, Milwaukee, and St. Louis since 1970 had exceeded the net migration from the entire North Central Region—including those six counties—in the same period. Large parts of the central cities in those counties are the Midwest's main concentrations of wear-and-tear, trampled earth, absentee maintenance, litter, and grime-impregnated, soot-stained material and structures of all kinds. They are massive accumulations of architectural solid waste, left over from the early railroad epoch. The problem for many a household is how to become comfortably separated from such things. The only practical solution open to many individuals is to leave. And how quickly can they do that? It depends in the last analysis on how much the rate of new construction exceeds the rate of new household and business expansion. The housing replacement rate jumped dramatically in the 1960s (Figure 2.9). It suddenly became possible to abandon floor space much faster than at any previous time in our history. And we did. Given a large net movement from the Midwest region, the concentrations of abandonment were at the end of the housing vacancy chain. They brought into sharp relief many of the tragedies and perplexities of our social evolution, and they reflected both pragmatism and mobility on the part of hundreds of thousands of households.

Forces behind the short-term fluctuations

The short-term fluctuations, from one decade to the next, so evident in Figure 2.10, reflect perhaps a half-dozen catastrophic events at the national or world scale over the half-century. There was the boom in urban income and development in the 1920s, the great depression, the Second World War, and the post-World War II boom in housing and birth rate. Then there were after-shocks as the babyboom generation surged into different sectors of the nation's mass market.

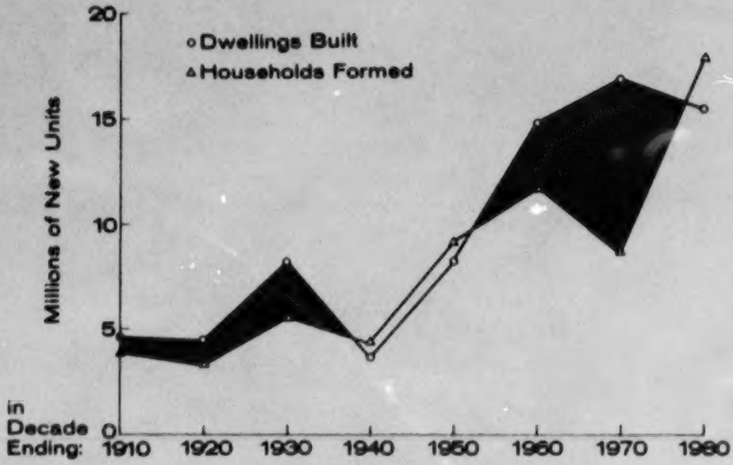

Fig. 2.9. Comparison of annual new household formations with annual new dwelling unit construction, 1910-1980.

Sources: 1910-1960, [16]; 1970, U.S. Bureau of the Census [26]; 1972-1976, U.S. Department of Commerce [30, 31]. Estimates for dwelling units built in decade ending in 1980 were made by extrapolating the 1973-76 rate from 1976 through 1979 and adding that number to the number of units built through 1976.

From the mid-1960s to the mid-70s, as that age group entered the job market, the annual rate of investment in new industrial plants and equipment fell behind the annual rate of growth in number of employed people, for the first time since the great depression (Figure 2.10). It was one of the two times in this century when the ratio of labor force increment to growth of industrial capital outlay has been so low. In the 1930s the ratio fell because investment fell catastrophically. In the past decade it fell because the labor force increased catastrophically. In either case the labor force, for a time, grew faster than investment in productive capacity. The first occasion was accompanied by double-digit unemployment; the second by double-digit inflation or relatively high unemployment, or both.

When the same generation entered the age bracket of maximum mobility, the Midwest and the nation entered a period of unprecedented migration. When that generation entered the age bracket of family formation in a period of unprecedented migration, high inflation, and high unemployment, the nation and the Midwest began to see a resurgence of urban residential rehabilitation, two-

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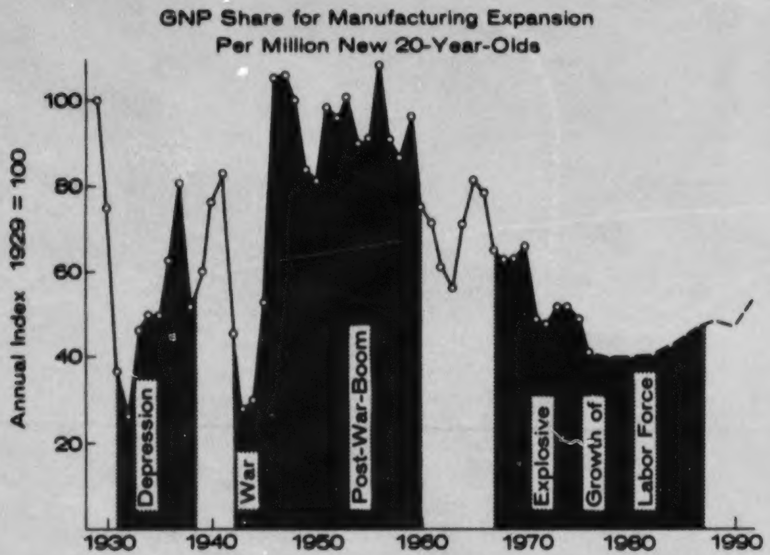

Fig. 2.10. Ratio: annual percentage increment to the labor force divided by the annual percentage of the GNP spent for new manufacturing plant and equipment, 1920-1984

Note: "Annual increment to the labor force" is taken as the number of live births 20 years earlier. Mean rate of investment in new plant and equipment for 1970s is assumed through 1984.

Sources: Live birth data from U.S. Bureau of the Census [21]; U.S. Bureau of the Census [21, 23, 24, 28] and U.S. Department of Commerce [32, 33, 34, 35].

job households, and new subsistence settlements on all frontiers—the frontiers of central city abandonment; the frontiers of agricultural abandonment, the sparsely-settled forests of the northwest mountains, the northern lakes, and northern New England; and the metropolitan frontiers in the nonmetropolitan long-distance commuting zones.

Finally, the same generation is beginning to take over the farming enterprise from its parents. There were only two periods between 1940 and 1974 when the number of farm operators was stable or increasing in *any* age class. That was the 20-to-25 age class; and the two periods were 1945 to 1950 and 1964 to 1974 [21, p. 465, Series K82-108; 29, table 1136, p. 675]. In the earlier period, the wave of returning veterans took over from old timers whose retirement had been delayed by their lack of savings in 20 years of depressed farm income and by their need to carry on through

World War II. Twenty to 30 years passed. Then there was a consequent wave of farmers in their 50s, approaching retirement and transferring their enterprises to a new wave of young farmers and young households. One who knows the Midwest countryside thinks quickly of farms that were occupied by two- or three-person households a decade ago and are temporarily occupied by four- or five-person households or double households today. Farm counties and counties with many long-distance commuters are the last strongholds of 1950-style birth rates. (Unless they are refuges, sheltering the cultural seeds of the next baby boom.)

The other noteworthy catastrophic events were very large mining and construction projects—taconite, hydro- and thermal-electric generating stations, new coal mines. All have been related in one way or another to the increasing need for fuel and materials and the increasingly capital-intensive methods needed to recover them. More about that later.

In short, events which triggered short-term fluctuations have been pervasive, largely unexplained, unpredicted, largely uncontrolled, and probably largely uncontrollable, with a few exceptions. The successive impacts of the aging of the large number of people born in the late 1940s and the 1950s, and the impacts of declining quality of domestic mineral supplies and rising world demand surely were predictable to a significant degree. In those cases the difficulty has been to organize and act because of insufficient general understanding or technical knowledge

The uneven locational impact of change

Earlier graphs showed persistent general trends in the past 55 years of population change (Figure 2.7, 2.8). Yet the graphs suggested continual variation around the long-term trends. Meanwhile the maps of change in the same years were always cluttered with exceptions to even the most obvious generalizations. A measure of the turbulence in these general trends appears if one looks at the percentage of its 1970 population which was attained in each metropolitan area at the time of each decennial census, beginning in 1920. The 1970 population is taken as 100, and each earlier population is some percentage of 1970, usually less than 100. The measure makes it possible to compare the stability of growth rates among all of the different-sized metropolitan areas of the Midwest—to see where they were in relation to one another half a century ago and the various fitful paths by which they came to their present sizes.

First, take the selected group of seven cities shown in Figure 2.11. There is a general trend, but there are obvious major individual differences. In 1920, Madison had attained only one-third of its 1970 size; Sioux City—unknown to anyone, including the authors of its 1920s master plan, had already reached nearly 90 percent of its 1970 size. Peoria has been steady. Wichita languished deeply in the depression years then burgeoned with its aircraft industry during World War II and the "Cold War" years. South Bend

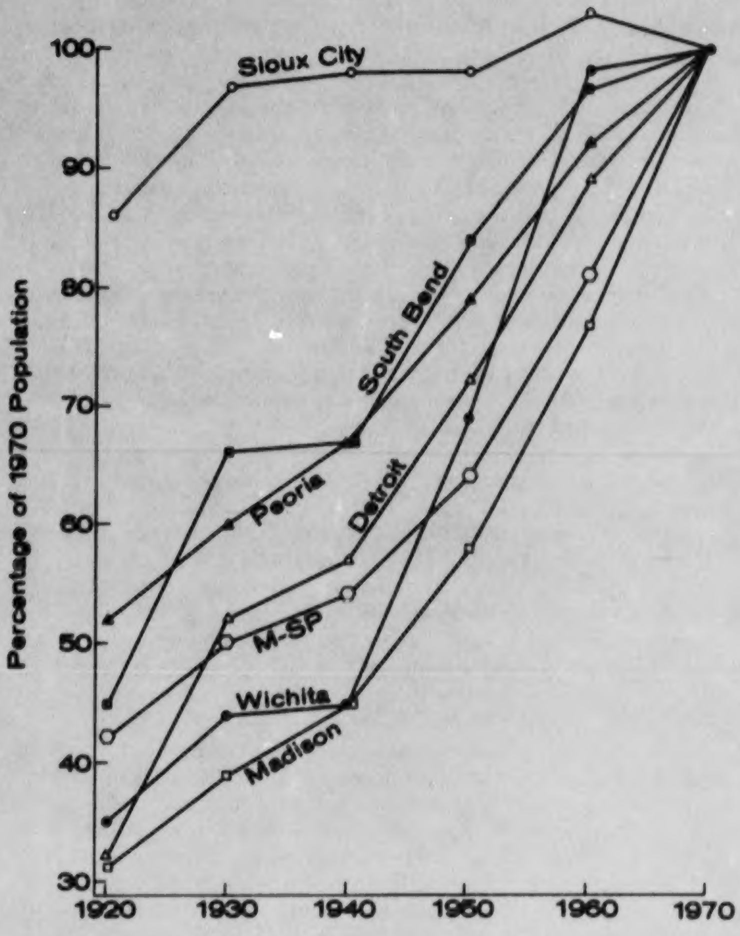

Fig. 2.11. Percentage of 1970 population attained in previous decennial census years, showing variability of growth rates in different, selected Midwestern metropolitan areas

Sources: U.S. Bureau of the Census [17, 19, 20, 22].

boomed, as Detroit, in the first full decade of the Auto Epoch in the 1920s; but unlike Detroit, it slowed after the demise of Studebaker in the 1950s. Minneapolis-St. Paul started more slowly than Detroit but has grown at a substantially faster rate in the past decade of computers and electronic controls.

Obviously the differences reflect not only the general impact of national and global short-term disturbances, but the effect of those events and other accidents on the fortunes of particular businesses, technologies, and institutions. The curves reflect the changing world as it was filtered to seven different cities through such miscellaneous institutions as Swift and Armour, Caterpillar, Studebaker and the "Big Three," Boeing and Cessna, the Twin Cities electronic complex, and the state government of Wisconsin.

Similar curves can be drawn for all of the Midwest metropolitan areas (Figure 2.12). The same pattern emerges, simply with greater

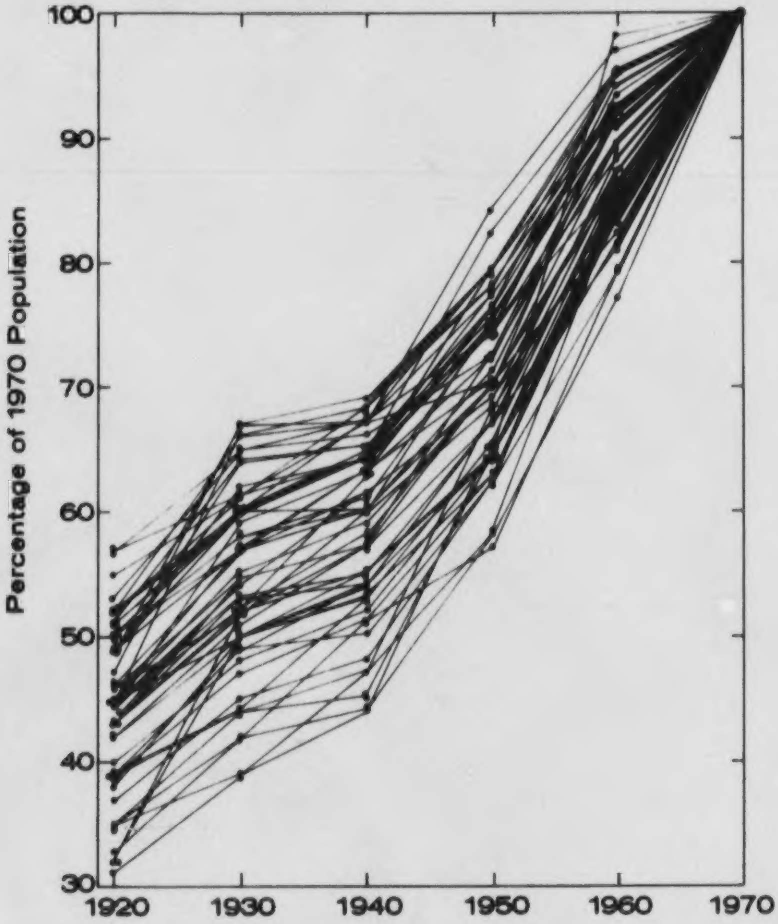

Fig. 2.12. Percentage of 1970 population attained in previous decennial census years in all Midwestern metropolitan areas.

Sources: U.S. Bureau of the Census [17, 19, 20,22].

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complexity. The array of places started from widely different percentages of their population today. The curves slowly converge, but at variable, ever-changing rates, depending on the impact of technologic, demographic, and economic catastrophies on each city's particular circumstances at the time. Although the graph stops at 1970, the lines are in fact diverging again from 1970 to the present, in disorder.

Suppose planners at each of these midwestern metropolitan areas had known in 1920 the precise population which would be in the same area in 1970, and had assumed straight line growth between the two points in time (in the absence of predictions of the time and impact of the depression, World War II, the population boom, and the events of the 1970s). The average difference between projected and observed populations at each decennial census would have been 45 percent—an average 45 percent error.

The present scene is a brief glimpse of the nation's vast array of diverse places on their way from diverse, partly explained pasts to diverse, largely unpredictable futures.

A New Era

Yet there can really be no doubt that the Midwest and the nation are crossing the threshold of a new era. A number of changes that

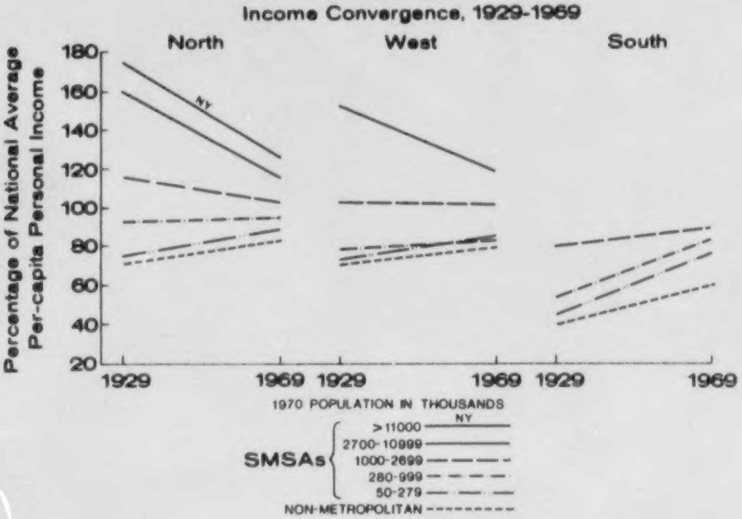

Fig. 2.13. Income convergence, 1929-1969

Sources: U.S. Water Resources Council [37]. Data are for the BEA Economic Areas which contain the nation's SMSAs.

came in the auto-oil-electronic communication epoch, especially after World War II, have pretty well run their course. The drainage of surplus farm labor from the Corn Belt, Great Plains, and South is one such event. The massive black and poor-white migration from the rural South to the cities of the Manufacturing Belt is another. The convergence of income levels and urbanization is yet another. The trends are apparent in Figure 2.13. High-order metropolitanization has emerged for the first time in the South in this epoch. We have seen the development of a truly national urban system at last.

In many ways the long-term trends I have emphasized have been based on cheap fossil fuel and its impact on the costs of raw materials, farming, manufacturing, transportation, and space heating. The graph in Figure 2.14 shows how the sharply rising cost of energy raw materials has signalled the end of that era. The change is forcing the United States into increasing interaction and interdependence in a world community that is generally much poorer and more disorganized than we are. The graph in Figure 2.15 shows one indicator of that new state of affairs. The nation is entering a period of increasing uncertainty, of experimentation with new technologies and resources in every sector of production and consumption. Hence, changes will abound, with mixed currents and

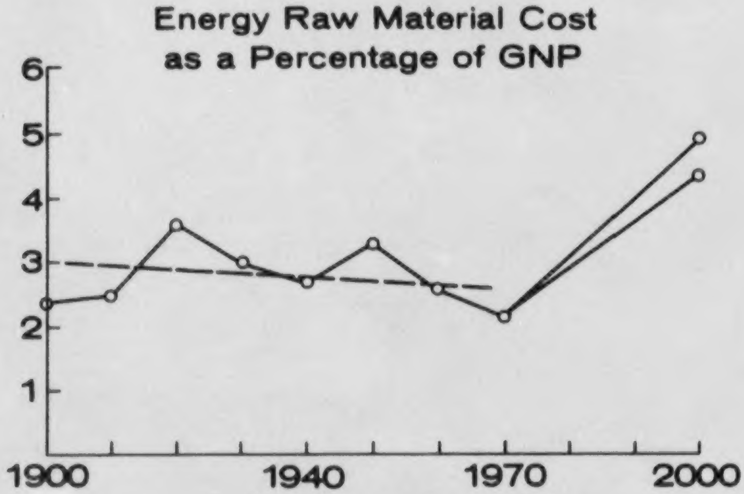

Fig. 2.14 Energy raw material cost as a percentage of GNP

Sources: 1900-1950, Schurr, Netschert, et. al. [15]; 1960-1972, U.S. Bureau of the Census [26, table 600, p. 274 and table 857, p. 517]; 1985-2000, Ridker [14] and U.S. Energy Research and Development Administration [36].

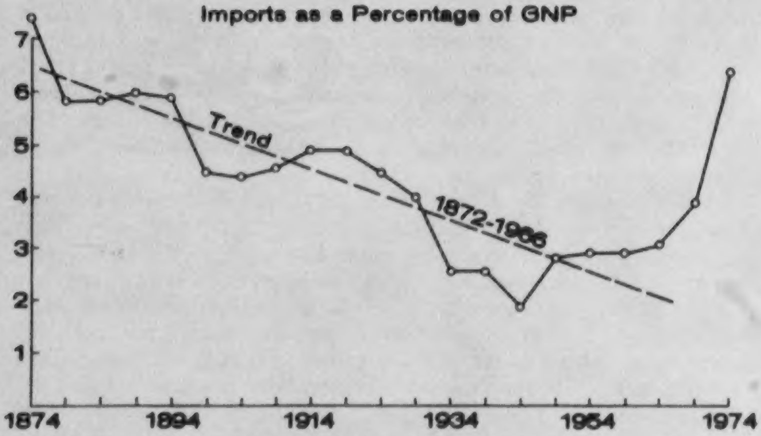

Fig. 2.15 Imports as a percentage of GNP

Sources: U.S. Bureau of the Census [21, 23, 24, 25, 26, 27, 28, 29].

counter-currents in the looks and the pattern of settlement. But, that is another story. The details are a different topic from ours, and they are essentially speculative in any case. Only the growth of uncertainty seems certain.

Conclusions

Population shifts since 1970 reflect long-term forces with great inertia, together with short-term perturbations in the longer trends.

The long-term forces have been running since 1920. They were set in motion by the internal combustion engine and cheap oil. Those years since 1920 comprise an *epoch*—the latest epoch in an *era* of cheap domestic fossil fuel supplies that began in the 1830s. Depression, wars, and the "baby boom" produced the short-term instability.

The technologic innovations that started each major new epoch or era in the long run of American metropolitan evolution were largely unpredictable. So were the catastrophes that triggered the short-term perturbations. Such changes are intrinsic to an open system. The response of people in the Midwest to these changes has reflected a high degree of both mobility and pragmatism. The mobility, in turn, has resulted to an important degree from a high level of investment in education and training.

Now the nation is entering a new epoch, devoid of the massive farm labor surplus, the regional inequities in urban development, and the cheap fossil fuels which have characterized the past 150 years.

Population trends observed since 1970 probably reflect the end of massive off-farm migration. To some degree they probably foreshadow the emergent mature, nation-wide urban system; but that might not be clear until the baby-boom generation moves beyond the age of maximum mobility around 1990. Meanwhile, it is doubtful that recent observed changes foreshadow at all the long-term effects of a new era in energy technology or supplies.

Because of the uncertainty, instability, and global dimensions of the forces behind these long-term population changes, it seems unlikely that cities, states, sometimes nations or federations could have literally controlled them in the past or will be able to do so in the near future. On the other hand, the changes should be perceptible to all of us less retrospectively and more currently than they have been. They can be monitored, modelled, and tentatively forecast with greater accuracy and efficiency. We can bring more and better knowledge to bear on settlement and development decisions. Thus we can adapt more quickly and efficiently to pervasive changes. That will surely be in the midwestern tradition of pragmatism and practical action.

NOTE

[1] The U. S. farm population number in 1920, multiplied by the average rate of natural increase for each decade, and compounded, to 1970, minus the observed 1970 population.

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CHAPTER THREE

DEMOGRAPHIC PERSPECTIVES ON MIDWESTERN POPULATION REDISTRIBUTION[1]

Calvin L. Beale and Glenn V. Fuguitt

It may not be possible to say anything fully new or surprising concerning the trend of population in the midwestern states. Perhaps the central fact that most impresses us is that the Midwest is the only major region in which every state has grown since 1970 at a rate below that of the United States as a whole. (The national population grew by 7.3 percent from 1970-78; Wisconsin—the most rapidly increasing midwestern state—grew by 5.9 percent.) Thus, changes in population distribution patterns in the region are not being fed by high rates of growth. None of the midwestern states any longer has a high rate of natural increase and most of them are experiencing a slow net outmigration.

Net outmigration as such is not new for the region as an entity. After some inmovement in the 1940s, the Midwest lost 0.1 million through outmovement in the 1950s, increasing to 0.75 million in the 1960s. But through 1977, the decade saw 1.3 million net departures. The eastern half of the region seems to have too much of an older industrial base, especially in large metropolitan concentrations, and the western half has too much dependence on agriculture for full retention of population to be possible. With natural increase below two-thirds of 1 percent a year because of the low birth rate, there is less natural growth available to offset outmigration and total regional growth is thus now barely a third of what it was in the 1960s.

But there is a paradox within this pattern of slow population growth. In the Midwest as in the nation, the slowdown of total increase has been accompanied by widening of the number of areas experiencing increase. From a decade point of reference, one can begin as far back as 1920 and find that when population growth has increased, the number of areas experiencing growth has diminished, because increased growth has been associated with concentration. As cycles of lower growth have occurred, however, growth has been more widely distributed. Therefore, despite the greatly reduced pace of growth in the region in the 1970s, about 280 counties have shifted from decline to growth whereas only 77 have reverted from growth to loss.

The purpose of this chapter is to develop some of the patterns of recent shifts in population distribution in the Midwest and to identify circumstances associated with these shifts.

From 1970-76 (the last year for which we have county-level data) the metropolitan areas of the Midwest grew in population by only 1 percent; the nonmetropolitan areas by 4.2 percent. Even though the nonmetropolitan growth rate is lower than that in any other major region, it is well above that of the metropolitan population which has become nearly stationary as a result of demographic stagnation in such major areas as Chicago, Detroit, Cleveland, St. Louis, Milwaukee, Kansas City, and Cincinnati. Only the growth of small and moderate sized metropolitan areas has saved the metropolitan category from absolute decline.

The four largest metropolitan areas in the region—those of 2 million or more inhabitants in 1970—declined fractionally in population from 1970-76 (Table 3.1), with a net outmigration of 857,000 people. Other metro-size classes grew very modestly, with the smallest areas having the largest growth, in contrast to the earlier pattern. But, all sizes of metropolitan areas in the Midwest have experienced some net outmigration of population since 1970, and all have had a diminished ability to retain people as compared with 1960-70. In this respect the smaller- and medium-sized areas of this region differ markedly from those in the West and the South where the so-called population turnaround has brought increased migration into such areas just as it has into nonmetropolitan counties. Altogether, midwestern metropolitan areas had net outmovement of 1.4 million people from 1970-76, a not inconsiderable amount. It should be stressed, however, that even in the most advanced cases, such as Cleveland or St. Louis, the pace of net outmovement is still moderate compared with the rates that typified scores of smaller agricultural counties in earlier decades. Suburban counties have been affected by the current topping out of metropolitanization in the region as well as the central city counties. As a group they still experience inmovement of people and a more rapid growth rate than do nonmetropolitan counties. Metropolitan sprawl continues. However, their net inmigration generally is much lower than it was and no longer more than offsets the outmovement from the central counties.

Within the nonmetropolitan class, the counties that are not adjacent to metropolitan areas have grown just as rapidly as those that are adjacent. Thus the renewed growth of nonmetropolitan population is not merely increased metro suburban sprawl into the next available ring of counties. The correlation between metropolitan adjacency status and county population growth was actually negative in the East North Central States (-.22) and only modestly positive (.14) in the western half of the region. Renewed retention of people in rural and small town areas permeates the region.

Sometimes this retention takes the form of greatly reduced population losses in comparison with the past. In other places it has resulted in truly rapid growth rates in the more remote and economically poorer sections of the region.

As a means of drawing inferences about population shifts in the nonmetropolitan parts of the region, we have grouped counties by certain salient aspects of settlement, location, function, and economic status that are thought likely to influence growth and change, and then have compared change and migration in the periods 1970-76 and 1960-70 (Table 3.2). The following are among the more significant patterns noted.

Table 3.1. Metropolitan population change in the North Central Region

Size of metro area in 1970	Population					Net migration			
	Number			Percent change		1970-76		1960-70	
	1976	1970	1960	1970-76	1960-70	Number	Rate[a]	Number	Rate[a]
	—Thousand—			---Percent---			Thousand		Percent
Total metropolitan areas[b]	39,516.1	39,108.0	34,604.5	1.0	13.0	-1,396.6	-3.6	115.3	0.3
2.0 million or more persons	16,901.3	17,011.3	15,187.7	-.6	12.0	-856.7	-5.0	-33.9	-.2
Central counties	10,902.2	11,458.9	10,897.4	-4.9	5.2	-977.0	-8.5	-611.3	-5.6
Noncentral counties	5,999.1	5,552.4	4,290.3	8.0	29.4	120.3	2.2	577.4	13.5
1.0-1.9 million	8,285.6	8,132.7	7,013.1	1.9	16.0	-243.5	-3.0	161.7	2.3
Central counties	5,821.0	6,006.0	5,441.7	-3.1	10.4	-447.1	-7.4	-140.4	-2.6
Noncentral counties	2,464.6	2,126.7	1,571.4	15.9	35.3	203.6	9.6	302.1	19.2
0.5-0.9 million	4,626.0	4,553.5	3,998.6	1.6	13.9	-154.4	-3.4	26.6	.7
Central counties	3,419.0	3,428.6	3,087.6	-.3	11.0	-171.0	-5.0	-58.6	-1.9
Noncentral counties	1,207.0	1,124.9	911.0	7.3	23.5	16.6	1.5	85.2	9.5
0.25-0.49 million	4,654.5	4,535.9	4,055.0	2.6	11.9	-93.4	-2.1	-26.6	-.7
Less than 0.25 million	5,048.7	4,874.6	4,350.1	3.6	12.1	-48.6	-1.0	-12.5	-.3

[a] Net migration expressed as a percentage of population at beginning of specified period.

[b] Metropolitan status as 1974. Ann Arbor has been classed with Detroit, Gary-Hammond with Chicago, Hamilton-Middletown with Cincinnati, and Lorain-Elyria with Cleveland.

SOURCE: Bureau of the Census. U. S. Census of Population: 1970, and Current Population Reports

Table 3.2. Population change by metropolitan status and selected county characteristics in the North Central Region

Item		Population					Net migration			
		Number			Percent change		1970-76		1960-70	
		1976	1970	1960	1970-76	1960-70	Number	Rate[a]	Number	Rate[a]
		Thousand			Percent		Thousand	Percent	Thousand	Percent
Total	1,055	57,737.7	56,591.2	51,619.1	2.0	9.6	-1,162.0	-2.1	-757.0	-1.5
Metropolitan counties[b]	181	39,515.5	39,106.1	34,604.6	1.0	13.0	-1,396.2	-3.6	127.4	.4
Nonmetropolitan counties	874	18,222.2	17,483.1	17,014.5	4.2	2.8	234.2	1.3	-884.4	-5.2
Counties adjacent to SMSA's	298	9,177.5	8,805.5	8,307.2	4.2	6.0	81.3	.9	-204.4	-2.5
Counties not adjacent to SMSA's	576	9,044.7	8,677.6	8,707.3	4.2	-.3	152.9	1.8	-680.0	-7.8
Characteristics of nonmetropolitan counties[c]										
Counties with:										
An interstate highway[d]	206	6,360.9	6,093.5	5,760.7	4.4	5.8	42.8	.7	-211.1	-3.7
No interstate highway	668	11,861.3	11,389.6	11,253.9	4.1	1.2	191.4	1.7	-673.3	-6.0
A senior state college	52	2,127.2	2,018.4	1,725.9	5.4	17.0	18.4	.9	90.4	5.2
No senior state college	822	16,095.0	15,464.8	15,288.7	4.1	1.2	215.8	1.4	-974.8	-6.4
Net migration at retirement ages:[e]										
15 percent and over	48	667.4	555.6	492.0	20.1	12.9	105.6	19.0	40.3	8.2
10-14 percent	35	614.7	555.2	512.7	10.7	8.3	49.2	8.9	9.8	1.9
Less than 10 percent	791	16,940.1	16,372.3	16,009.9	3.5	2.3	79.4	.5	-934.5	-5.8
Manufacturing employment:										
40 percent and over	52	2,603.0	2,507.2	2,264.2	3.8	10.7	-25.7	-1.0	-16.8	-.7
30-39 percent	110	3,880.2	3,714.6	3,517.7	4.5	5.6	33.4	.9	-117.7	-3.3
20-29 percent	173	4,129.2	3,912.2	3,809.8	5.5	2.7	134.8	3.4	-134.9	-3.5
Less than 20 percent	539	7,609.6	7,349.1	7,422.9	3.5	-1.0	91.7	1.2	-615.0	-8.3

Table 3.2. (continued)

Item	Number of counties	Population					Net migration			
		Number			Percent change		1970-76		1960-70	
		1976	1970	1960	1970-76	1960-70	Number	Rate[a]	Number	Rate[a]
		Thousand			Percent		Thousand	Percent	Thousand	Percent
Agricultural employment:										
30 percent and over	217	1,493.7	1,504.6	1,686.6	-.7	-10.8	-25.9	-1.7	-280.7	-16.6
20-29 percent	168	2,215.2	2,154.8	2,247.9	2.8	-4.1	28.4	1.3	-255.9	-10.1
10-19 percent	235	4,857.4	4,634.4	4,569.9	4.8	1.4	114.8	2.5	-244.2	-5.3
Less than 10 percent	254	9,655.9	9,189.3	8,510.2	5.1	8.0	116.9	1.3	-133.6	-1.6
Size of largest place:										
25,000 persons and over	52	3,641.7	3,520.8	3,161.6	3.4	11.4	-36.5	-1.0	-9.6	-.3
10,000 - 24,999	123	4,914.4	4,737.9	4,492.9	3.7	5.5	8.1	.2	-158.6	-3.5
2,500 - 9,999	381	7,287.8	6,976.06,976.9		4.5	f	155.7	2.2	-464.4	-6.7
Less than 2,500	318	2,378.3	2,248.4	2,383.1	5.8	-5.7	106.9	4.8	-251.9	-10.6
Population per square mile:										
100 or more persons	46	3,596.7	3,474.9	3,112.3	3.5	11.7	-31.1	-.9	15.1	.5
75-99	48	2,258.2	2,186.7	2,019.8	3.3	8.3	-10.1	-.5	-16.6	-.8
50-74	79	2,631.6	2,522.2	2,432.5	4.3	3.7	22.5	.9	-119.0	-4.9
25-49	245	5,330.0	5,091.4	4,990.4	4.7	2.0	113.2	2.2	-252.2	-5.1
Less than 25	456	4,405.7	4,207.9	4,459.6	4.7	-5.6	139.7	3.3	-511.7	-11.5
Median family income in 1969:										
$9,000 and over	118	5,971.0	5,748.7	5,199.0	3.9	10.6	-25.7	f	-10.5	f
$8,000 - 8,999	202	4,796.4	4,582.6	4,426.9	4.7	3.5	66.7	1.5	-228.9	-5.2
$7,000 - 7,999	254	4,349.7	4,196.9	4,253.1	3.6	-1.3	65.8	1.6	-333.4	-7.9
$6,000 - 6,999	192	2,094.8	2,017.5	2,126.0	3.8	-5.1	62.3	3.1	-193.9	-9.1
$5,000 - 5,999	83	753.8	700.5	738.9	7.6	-5.2	49.5	7.1	-66.4	-9.0
Less than $5,000	25	256.5	237.0	270.7	8.2	-12.5	15.6	6.6	-51.2	18.9

Table 3.2. (continued)

Item	Number of counties	Population					Net migration			
		Number			Percent change		1970-76		1960-70	
		1976	1970	1960	1970-76	1960-70	Number	Rate[a]	Number	Rate[a]
		Thousand			Percent		Thousand	Percent	Thousand	Percent
Turnaround status:										
Population growth 1970-76 and 1960-70	311	9,785.9	9,116.3	7.3	10.4		304.1	3.3	46.3	.6
Population growth 1970-76, loss 1960-70	275	4,052.9	3,849.6	4,105.8	5.3	-6.3	140.0	3.6	-491.5	-12.0
Population loss 1970-76, growth 1960-70	43	1,653.4	1,695.9	1,570.0	-2.5	8.0	-99.4	-5.9	-21.4	-1.4
Population loss 1970-76 and 1960-70	245	2,730.0	2,822.4	3,084.6	-3.3	-8.5	-110.5	-3.9	-417.8	-13.5

[a] Net migration expressed as a percentage of the population at the beginning of the specified period.

[b] Counties of Standard Metropolitan Statistical Areas (SMSA's) as of 1974.

[c] Characteristic as of 1970 unless otherwise stated.

[d] Counties with interstate highways in 1977.

[e] Counties with specified 1960-70 net migration rate for white persons 60 years old and over, 1970.

[f] Between ± .05 percent.

Note: Metropolitan population totals differ slightly from those in table 3.1 because of rounding. Metropolitan net migration data for 1960-70 are from different sources in Tables 3.1 and 3.2 and therefore differ somewhat.

SOURCES: Bureau of the Census, U. S. Census of Population 1970 and 1960, Current Population Reports, and unpublished data.

1) There is now a mild inverse relation in the region between population growth and size of largest place in the county. This is the opposite of the pattern of the 1960s, when completely rural counties had extensive outmigration and counties with cities of 25,000 or more people tended to absorb the equivalent of their natural increase. It is the decline of population growth in the latter class of counties (especially east of the Mississippi) that accounts for the fact that counties adjacent to metropolitan areas in the region are not growing more rapidly than the nonadjacent counties as a whole. The counties having centers of 25,000 people or more are largely manufacturing based and demographically they are behaving more like mini-metropolitan industrial areas than incipient suburbs. Related to this trend is the end of the former positive association between density of nonmetropolitan population and growth.

2) Counties on interstate highways have had only fractionally higher growth rates than have other counties, in contrast to the past. The counties not on an interstate highway have actually had higher rates of inmigration than have those enjoying the advantage of the highway. The slightly higher growth of the interstate highway counties has come solely from higher natural increase, probably the result of a younger average age of the population.

3) Retirement counties comprise by far the most rapidly growing group of counties that can be identified. Some 48 of them that had at least 15 percent growth of older population through inmigration in the 1960s showed 20 percent overall population growth from 1970-76. This is a compounded rate of 3 percent a year, which is probably faster than communities can be expected to absorb over any period of time without substantial growing pains. The pace of growth in these counties is nearly quadruple what it was in the 1960s, and more counties are emerging in which growth is dominated by retirement.

4) The role of growth in counties containing state colleges—which was very important in the 1960s—has greatly diminished in the region. As enrollment gains have slowed, the growth of such counties from net inmigration has dropped from an average of 9,000 a year to 3,000.

5) There is still outmovement of people from the counties having the highest percentage of employment in agriculture. The region had 217 counties in 1970 in which 30 percent or more of all employed people worked directly in agriculture. (This is two-thirds of all such counties in the nation.) These counties as a class declined slightly in population from 1970-76. Nonetheless, they were a part of the trend of greater retention of people in rural and small town areas, for their rates of loss were far lower than they had been earlier. As agricultural dependence has gradually diminished and as farm employment has presumably come closer to the minimum levels required, the rate of outmovement from such areas has radically dropped, from 28,000 annually in the 1960s to 4,000 a year in this decade.

6) In the recent past one could fairly reliably predict whether a county would be having population growth or loss by its income

level. High income areas attracted people; low income areas lost them. Thus, for example, in the Midwest the nonmetro counties with $9,000 or more median family income in 1969 grew by nearly 11 percent from 1960-70, whereas those with medians of less than $5,000 declined by more than 11 percent. Counties with medians of $7,000 to $8,000—an intermediate level—were almost stationary in population. In effect, a strong economic motivation for population movement seemed to exist. The same association could be demonstrated for the 1950s. Because of the strength and duration of this pattern, it seems doubtful that anyone could have predicted the utter lack of positive association between area income level and population change that has developed in this decade. The highest growth rates are actually found in the two lowest income classes (resulting in substantial part from the attraction of population to the Ozarks and the Upper Great Lakes areas). Other income classes show no meaningful differences from one another. The population turnaround affects all income classes of nonmetropolitan counties except the highest income class, but the lower the income level, the greater the population turnaround that has occurred. Other research shows that population growth in the region also fails to be positively related to the income growth rate since 1970, as distinguished from income level [1].

7) Given the prior relationship between income level and population growth, a corollary of the change in trend is that the greater the earlier rate of net outmigration the greater the degree of improved population retention since that time, and the higher the previous rate of population growth the more the likelihood of reduced inmigration in this decade. There is a notable regression toward the mean rate of growth among nonmetropolitan counties in the United States, and especially in the midwestern region.

A multiple correlation coefficent was computed between population change and the above factors plus workers commuting to metropolitan areas, military population, and Black population. (The last two variables proved unimportant in the midwestern context.) The multiple correlation was run separately for the eastern and western halves of the region, given their differences in degree of urbanization, density, and dependence on agriculture versus manufacturing.

In the East North Central Division, a multiple R of .60 was obtained for 1970-76, yielding an R^2 of .36, from the use of 12 variables. The largest beta values were derived from positive association of growth with county status as a retirement destination, and negative associations with size of largest place in a county, and adjacency to a metropolitan area.

The same set of variables yielded a higher degree of explanation of the growth trend from 1960-70, with a multiple R of .77 and an R^2 of .60. There are two striking differences in the results for the two decades. From 1960-70 median income showed a strong positive association with population growth in the East North Central States, but by 1970-76 the association had become modestly negative. The second change is the loss of the former attraction of counties containing a senior state college. The association of growth with retirement, on the other hand, has been considerably strengthened.

In the western half of the region, the same set of variables provided a multiple R of .57 for 1970-76, with an R^2 of .32, not much different from the results for the eastern states. But the importance of individual variables differed. In the eastern section, agriculture contributed little to the overall explanatory power of the multiple relationship, whereas in the western part, it was the strongest variable. Retirement ranked second, followed by commuting.

For the West North Central Division, a multiple R and R^2 (.78 and .60) were almost identical in the 1960-70 period with values for the eastern states. Although retirement was important at both times, in the earlier periods there are negligible associations with agriculture and density as expressed by betas and sizeable influences from presence of colleges, military, and size of largest place that have since nearly disappeared.

In sum, in both divisions of the region, the predictability of population change from the most commonly useful indicators of the recent past has greatly diminished, reflecting, in our opinion, the extent to which a new regime of motivations and influences on migration has come into play.

Places—To further understand the nature of the nonmetropolitan turnaround in the North Central States, we have compared the extent of growth within rural and urban components of counties. Population estimates for incorporated places of 2,500 persons or more in 1975 were obtained from published reports of the Bureau of the Census. These, along with the corresponding population counts reported in the censuses of 1950, 1960, and 1970, form the basis for examining population growth in places of 2,500 or more and growth outside of these places. This distinction is close to that of the Census Bureau in designating rural and urban areas, particularly for the nonmetropolitan sector.

In the top panel of Figure 3.1, urban and rural growth in both metropolitan and nonmetropolitan sectors is distinguished, as shown by annualized growth rates for places of 2,500 population and more at the beginning of each of the three specified time periods, and for the balance of the population. Here a somewhat different picture emerges. Despite the turnaround, in each time period the most rapidly growing areas of the North Central states are in Standard Metropolitan Statistical Areas (SMSAs), but outside incorporated cities of over 2,500. Over the three time periods, however, the growth rate both for this component and for the urban centers in SMSAs has diminished considerably; overall SMSA urban places declined in population in the first half of the 1970s. Note, however, that this declining pattern is true also for nonmetropolitan urban places, so that it is only the nonmetropolitan population outside places that has consistently increased in annual growth rate over the 25-year period.

A further elaboration is given in the bottom panel, in which the metropolitan and nonmetropolitan areas are each subdivided into four categories. For the metropolitan, (four bars on the left) the urban component is shown according to three size-of-place groupings. The inverse association between size and growth is clear, along with the continuing decline in rates across the time intervals. By 1970-75, over the North Central Region as a whole, the total population in cities in

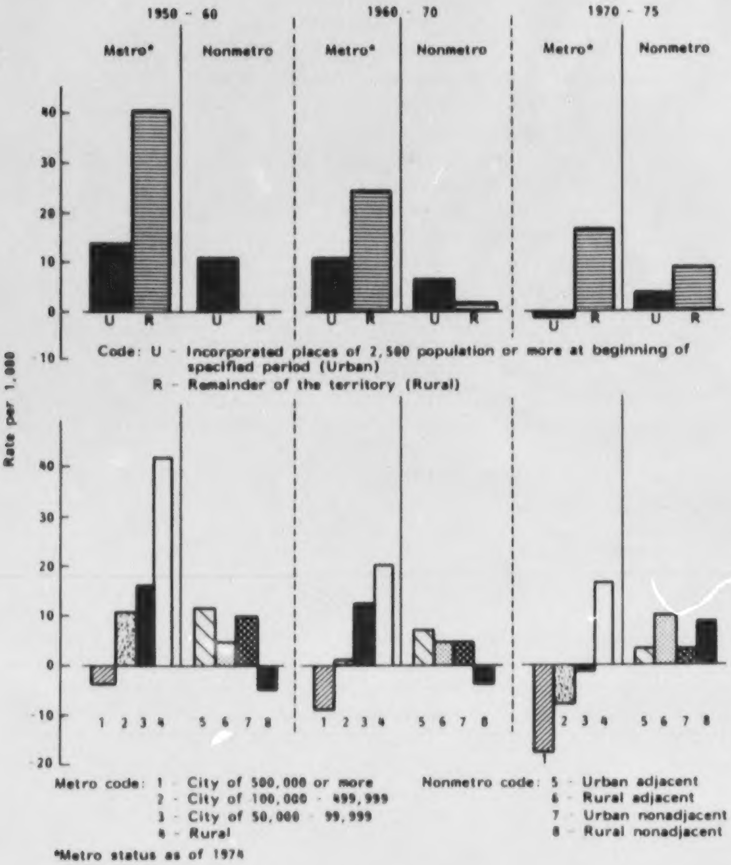

Fig. 3.1. Annualized growth rates for population inside and outside of urban places by metropolitan status, Midwestern States

all three size categories was declining. Places over 500,000 in size in 1970 altogether lost 18 per 1,000 per year, the highest loss shown in the figure.

On the nonmetropolitan side, a distinction was made between counties found adjacent to 1974 SMSA counties and other counties more remotely situated. These two groups of counties were then divided into urban and rural components, as before. In the 1950s and the 1960s, a distinction by location was particularly evident in that rural remote areas were declining in contrast to rural adjacent areas, and remote cities were growing slightly less than adjacent cities. The remarkable change by the 1970s is that whereas cities in both locations are growing at the same low rate, the population outside urban areas is growing more than twice as rapidly, even in remote locations.

Another dimension of the turnaround, then, is that current growth favors rural areas, so that the overall pattern even in remote counties of the region is for local decentralization, paralleling the decentralization that has occurred in metropolitan areas for many years. Thus, nonmetropolitan areas reveal a double-faceted decentralization process. Not only has there occurred a surge of growth in counties distant from metropolitan areas and in counties having no urban population, but also we see that, overall, rural areas are growing more rapidly than cities. One should not lose sight of the fact, however, that the rural population in metropolitan counties continues to grow more rapidly than the nation as a whole and also more rapidly than the rural population in nonmetropolitan areas. Although the new nonmetropolitan trend is unprecedented, decentralization within metropolitan areas continues to be an important aspect of our population redistribution in the region and Nation.

Personal characteristics—From the Current Population Survey (CPS) of the Bureau of the Census it is possible to confirm certain other aspects of population redistribution in the Midwest [2]. It can be said that the people being lost by the region to other regions are on the average somewhat younger than the base population of the region (65 percent of net migrants under age 35 from 1975-78 versus 56 percent in the base), thus serving to raise slightly the average age of the remaining population. Only 1 percent of the net regional loss is Black, although Blacks comprise 8.5 percent of the resident population. The South is the destination of somewhat more than half the people who leave the region, but is now the source of somewhat less than half of the people who enter it.

The CPS also shows some characteristics of people moving into the metropolitan and nonmetropolitan areas of the region. These data are not tabulated by updated SMSA boundaries and thus are not directly comparable with other numbers cited in this paper. They overstate the nonmetropolitan population. The relationships shown are thought to be valid, however. The data indicate that the trend of redistribution into nonmetropolitan areas has on balance added to the proportion of children in the nonmetropolitan areas and also to the proportion of young adults in the 25-34 age range.

There continues to be a minor net outflow of youth 15-24 years old. But because of the influx of young adults 25-34 years old and of their children, the redistribution within the region is probably having a normalizing influence on age composition of many areas after years of net migration, except in the counties that are becoming destinations for retired people.

As noted earlier, counties attracting people of retirement age are growing rapidly as a class. This raises the issue of the extent to which the new nonmetropolitan population growth may be attributed directly to the migration of older people, and how their migration patterns have changed in comparison with the remainder of the population.

To gain further information on this, we have obtained estimates for the population over 65 years old in 1975 prepared by the Census Bureau for the HEW Administration on Aging. These should be a reasonably reliable component of the total county population estimates for 1975 as they are based on Medicare enrollments. With these 65 and over and total county population estimates, and mortality data from State life tables, Stephan Tordella of the University of Wisconsin Applied Population Laboratory has developed estimates of net migration for the 1970-75 period, for the population 0-64 years and 65 years and over in 1975 for each county in the Nation. These have been compared with county net migration estimates for the same age groups for 1950-60 and 1960-70, prepared by Gladys Bowles and associates.

The absolute figures from these new estimates suggest that an important proportion of the new nonmetropolitan growth in the North Central Region may be attributed to elderly migration. In the 1950s the nonmetropolitan net migration loss was 1.5 million, and of this the net migration loss for older people constituted less than 100,000. In the 1960s the net loss was almost 900,000, with the net migration of elderly a very small offsetting net gain of less than 15,000. Since 1970, the new estimates show a net migration gain for both age groups totalling approximately 170,000 and about 25 percent of this may be allocated to people 65 and over.

Further preliminary results are shown in terms of migration rates per 1,000 population for metropolitan and nonmetropolitan areas in the North Central Region (see Figure 3.2). The left-hand side gives metropolitan and nonmetropolitan rates for people either 0-64 or 65 and over at the end of each time period. Here we see that the actual turnaround in rates is found only for persons under 65, since between 1960-70 and 1970-75 the lines for the metropolitan and nonmetropolitan components for this age group cross. Net migration rates for older people are always higher in nonmetropolitan than in metropolitan areas and are positive in the nonmetropolitan areas during the two most recent time periods. Also, nonmetropolitan net migration rates are always higher for older than for younger persons. Both age groups, however, show a consistent increase in rates over time, with a decreasing difference between older

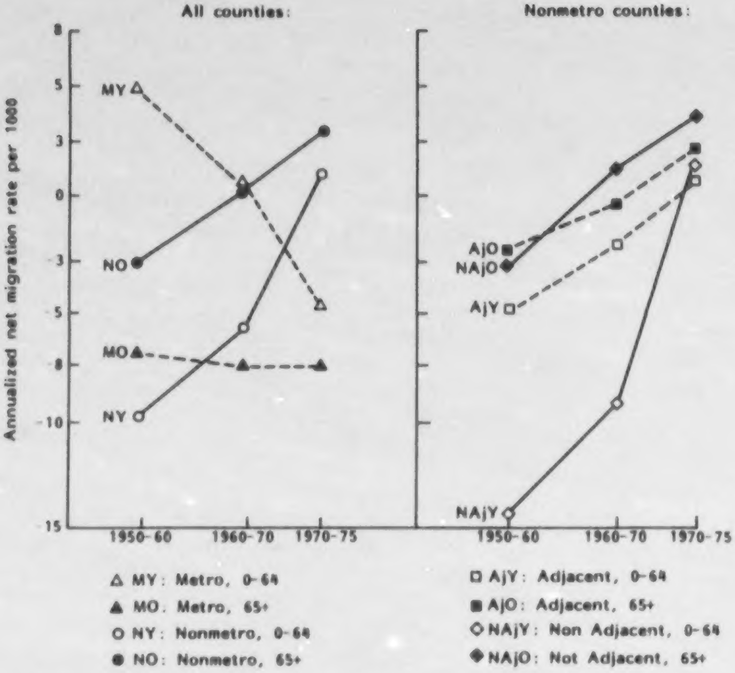

Fig. 3.2. Annualized net migration rates per 1,000 for metropolitan and nonmetropolitan counties of the North Central Region, 1950-1975, persons 0-64 and 65 and over at the end of each time period

and younger groups. Consequently, it is not appropriate to conclude that the turnaround is simply because of the increase in the net migration gain of older people, particularly since the rate gain for the younger group is even more marked.

The right-hand side of this figure shows rates in the nonmetropolitan sector for counties divided according to whether or not they were adjacent to a 1974 metropolitan county. There is little "adjacency effect" for the older rates, although the rate for nonadjacent counties shifts to a position slightly higher than adjacent counties for the two most recent time periods. The net migration rates for persons 0-64, however, shows an extreme convergence over time. Although migration losses for this age group were considerably higher in nonadjacent than adjacent counties in the 1950s, by the early 1970s the two rates were identical at about +1/1000/year. The increased net migration gain for persons under 65, as well as for those 65 and over cannot be attributed only to the growth of "urban fields" or extended suburbs adjacent to metro areas. Instead, the differential net migration levels for adjacent and nonadjacent areas which formerly favored locations accessible to large cities, has essentially disappeared for the North Central states as a whole.

We are witnessing a continued decline in the proportion of midwestern people who live in either the central cities or the central counties of metropolitan areas. These trends are not new but are proceeding so fast that they are substantially altering the distribution of people within metro areas. Detroit City, for example, contained 40 percent of its total SMSA population in 1960 (including Ann Arbor). By 1970 this proportion had fallen to 32 percent and by 1976 to 28 percent. The nonmetropolitan percentage of the region's total population is now growing, although not rapidly and only on a constant area basis. The nonmetropolitan percent of the total has only gone from 30.9 in 1970 to 31.5 in 1976. But the remarkable thing is that the nonmetropolitan proportion has ceased to fall and is rising at all. One aspect of the current trend is that a number of places are continuing to qualify as new small metropolitan areas. Just since 1970 we have seen such cities as Bismarck, Grand Forks, Rapid City, Eau Claire, Lawrence, Kankakee, Kokomo, and Bloomington qualify on the basis of recent growth or annexations. So the net growth of the nonmetropolitan sector is whittled away when reclassification is accounted for. No metropolitan areas seriously face nonmetropolitanization. Thus, the region has no prospect of becoming predominantly rural and "small townish" again.

The final aspect of decentralization—which we judge to be even more surprising than nonmetropolitan growth as a whole—is the more rapid growth of people in the open country and rural towns than in the small cities. Much of the Midwest had been the epitome of local centralization of population in the 1950s and 1960s and the present trend seems entirely unforseen in the literature of the late 1960s or early 1970s.

In this chapter we have not attempted to deal with causes of present trends—whether societally or in individual motivations—nor have we gone into the geography of the changes, nor presumed consequences. These are the subjects of other chapters. Some of our evidence, however, supports the view that economic incentives are less important in explaining individual migration in the most recent time period. On a county-level basis, high income counties no longer have the highest rate of inmigration. Also since 1970, a substantial minority of the net migration shift in the Midwest is directly attributable to persons 65 years and over, indicating much movement of people for reasons not job related. On the other hand, it is necessary to keep in mind that the new patterns are by no means solely explained by retirement moves.

We do conclude that however viewed the phenomenon is significant, both for the region and the nation. We do not believe it to be a transitory thing and we would note that it is not limited to the United States. We realize that in many respects we are analyzing estimates, but we see no likelihood that the results of the 1980

Census could more than marginally alter the findings. There are too many corroborative data from employment, social security, and medicare records, and from field surveys.

We have no confidence about predicting the duration or ultimate extent of present redistribution trends. Some of them, such as the loss of people from central cities, clearly will ease and become asymptotic to some new base level. But we have seen in the case of earlier rural outmovements that such depopulating trends can extend over a lengthy period before the transition is completed or new settlement factors emerge.

In the case of the Midwest, residential transition effects are overlaid with an accelerated regional drift in population within the country. The regional shift—which we have not emphasized—may well be the most important for the region as farming and manufacturing makes the drift to the South and West more difficult to resist.

We see the internal trends of population location in the Midwest as reflecting a demographic distribution transition that comes a) when nations or regions have all the metropolitanization that they need to function as modern societies, b) when as with so many social movements large-scale urbanization has brought excesses that have impaired the advantages of cities either for business or residence, and c) when the conditions of life in urban and rural settings have converged to the point that rural need no longer mean rustic and urban gives no assurance of urbanity.

We believe the distributional aspect of demographic transition in nations of advanced technology and high standard of living to be just as real as more conventional demographic transition theory in relation to mortality and fertility.

NOTE

[1] The research for this chapter was supported by the Economic Development Division, Economics and Statistics Service, U. S. Department of Agriculture, and by the University of Wisconsin College of Agricultural and Life Sciences through a cooperative agreement and as a collaborator in North Central Region Cooperative Research Project, NC-97, "Population Redistribution in Nonmetropolitan Areas of the North Central Region."

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CHAPTER FOUR

THE IMPLICATIONS OF POPULATION CHANGE FOR PUBLIC POLICY IN THE MIDWEST

Ralph R. Widner and Richard W. Buxbaum

Public Policy and Population Change[1]

As is the case in the rest of the United States, changes in the rates of natural population increase, in the directions of national population migrations, and in the locational and residential preferences of households and firms are significantly altering the patterns of settlement and the distribution of economic activity in the Midwest. They are likely to continue to do so. Yet there are few efforts at any level of government in the Midwest to anticipate and respond to the present and future implications of these changes. This is not unusual in the American experience.

Public policy has traditionally lagged in its response to changing social and economic realities. In part, this tendency is inherent in a political system that fully perceives the consequences of demographic, economic, or technological trends only after they have made themselves sufficiently felt on the body politic to compel a response. It also can be traced to statistical systems that lag behind actual developments in their reporting. And, it also represents our failure to complement statistical reporting with interpretive and planning analyses that highlight for decision makers the possible consequences of developing trends. In failing to provide such interpretive foresight, we "blind-side" our public officials.

This inadequacy in our policymaking can be clearly seen during the past two decades in our belated response to national changes in birth rates and changes in the net direction of population flows. Along with technological change, alterations in the rate of population increase and in the net direction of migrations rank among the most potent influences upon patterns of settlement and the distribution of economic activity. And these, in turn, directly affect the level and character of public services required, the availability of revenues to finance those services, and the viability of local and state economies.

In the mid-1960s—even though birth rates had been falling off for five years after the "War Baby" boom reached an end and the displacement of large numbers of persons from rural to urban areas as a result of mechanization in agriculture and mining had long passed its peak—much attention in the Midwest and the nation was focused upon the problems of the smaller communities and rural regions that had been de-populated by the displacements of the past. Under the slogan of a "balanced" policy for growth between rural and urban

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America, Congress enacted a significant number of economic and community development statutes focused on lagging, nonmetropolitan regions [16]. A prestigious Presidential Commission, chaired by John D. Rockefeller III, expressed deep concern for the future of metropolitan areas in which migrants would continue to pile up, imposing a heavy social burden upon the cities [13].

Yet in the appendix to that same report was a perceptive analysis by William Alonso pointing out that, in the face of a declining rate of natural population increase, already-existing rates of outmigration from the older central cities and metropolitan areas would produce absolute declines for many metropolitan areas in the coming decade. Migration would become the primary determinant of relative population growth rates among localities. Rather than facing the problems of population influx, he wrote, many metropolitan areas would face the unaccustomed problem of population decline [1].

Only a little over a decade later, the realities so evident to Alonso in the 1960s have become the grist for public policy discussion in the 1970s. In contrast with the last decade, present debates are preoccupied with the implications of population decline in the older industrial areas, with the impact of population increases upon nonmetropolitan regions and small communities, and with the continuing dispersal of population and economic activity within and between regions. The contrast between our perceptions in the 1960s and the 1970s is summarized in Table 4.1.

Of course, we are just as vulnerable to making poor decisions based on present perceptions now as we were a decade ago when we prescribed on the basis of that decade's perceptions. Intelligent public policy must try, within the limits of our ability, to anticipate the possible consequences of population and technological change far enough in advance to adequately cope with the implications. Otherwise we are condemned to reactive policies adopted after a problem has passed us by.

It must be admitted that projecting population change is a risky business. Demographers have posted a dismal record in the past. In fact, a number of our leading authorities in demography and regional economics would be sorely embarrassed today if we were to resurrect their categorical assertions in the early 1960s to the effect that a swing away from metropolitan inmigration was impossible and that existing rural-to-urban trends were well nigh irreversible.

But if we are extremely wary about forecasting future birth and fertility rates and concentrate our attention instead upon those who have already been born, our efforts at foresight might prove more accurate and more useful.

In doing so, we should divide our look ahead to the year 2000 into two parts: the 1980s and the 1990s. During the 1980s, the last of the "War Baby" generation will pass into the adult age cohorts. By the end of the decade our efforts to accommodate rapid labor force growth and a high rate of household formation will have to shift to an opposite set of concerns. There will be an appreciable decline in the rate of growth in the work force and a significant drop in the demand for housing.

The challenge in the Midwest is to contend with the regional implications of these changes in the national population while also adjusting to the changes in population distribution wrought by con-

Table 4.1. Shifts in perception of U. S. development problems 1967-1979

As they were perceived in 1967	As they are perceived in 1979
1. The demographic shift	
A. Substantial population increase must be accommodated.	A. Dramatic decline in birth and fertility rates.
B. Education and other systems must be expanded to accommodate post war generations	B. Post war generation expands labor force through 1985, also increases growth in household formation.
C. Metro areas swamped by influx of rural migrants.	C. Net rural migrations have ended.
D. Population growth of largest metros irreversible.	D. Large industrial metros losing population.
E. Nonmetro areas emptying out.	E. Many nonmetro areas must accommodate population growth.
F. Net migrations out of South to North and West.	F. Net migrations out of North, Midwest to South, Southwest, Western growth rates slowing.
2. An economic shift	
A. Full employment to be attained through active fiscal, monetary policy.	A. U. S. growth will be constrained.
B. Industrial development basis for area development.	B. Production employment no longer prime source of employment. Emphasis should be on advanced manufacturing, tertiary, quaternary sectors.
C. Need to attract manufacturing into lagging regions.	C. Manufacturing growing rapidly in South, declining in industrial Northeast, Midwest. Rural manufacturing growing, metropolitan industrial centers declining.
D. Production and service employment metropolitan-centered.	D. Production and some service employment decentralizing and diffusing, less metropolitan-centered.
E. Production can be improved through technology in production, better training.	E. Productivity declining because of increasing concentration of service employment, sluggish modernization of production.

3. A resource shift

A. Cheap energy/resources.	A. Expensive energy/resource.
B. Assured supply of energy/resources.	B. Interruptible supply.
C. Economic growth based upon intensive energy consumption.	C. Curtail, control consumption.
D. Resource-based regional economies most vulnerable to economic distress.	D. Resource-based regional economies have major comparative advantages over energy-importing (and non-agricultural) regions.
E. Decrease use of coal for environmental reasons.	E. Increase use of coal to lower import dependency.

4. A regional shift

A. South, West, and "rim" lagging regions should be brought to regional parity.	A. South, West approaching parity; Northeast and Midwest now lagging.
B. Production employment should be more evenly distributed.	B. Production employment losses hurting old industrial heartland.
C. Advanced services will remain major function of primate cities.	C. Advanced services decentralizing out of primate cities to new regional capitals.
D. Federal expenditure policy should aid South, West reach parity.	D. Northeast, Midwest Federal "Balance of Payments" problem aggravates ch loss of private investment. Federal expenditure policy should be changed.
E. Public works (water, sewer, transport, etc.) can aid lagging regions acquire comparative advantages for development.	E. Public works no longer key need in lagging regions.
F. Tax incentives, subsidies can help attract production employment into lagging regions.	F. Incentives and subsidies of marginal (or dubious) relevance to structural or territorial problems.

temporary technology. It is the latter that poses as great a challenge to public policy in the Industrial Midwest as does the changing structure of the over-all population.

Changing Population Patterns in the Midwest

To assess the challenges to public policy in the Midwest engendered by population change, we should assess the implications of three basic population shifts: 1) the implications of substantially lowered birth rates; 2) the effects of intraregional migration changes; and 3) the effects of interregional changes.

For our purposes, the Midwest can be defined as the North Central Census Region divided into the East North Central states of

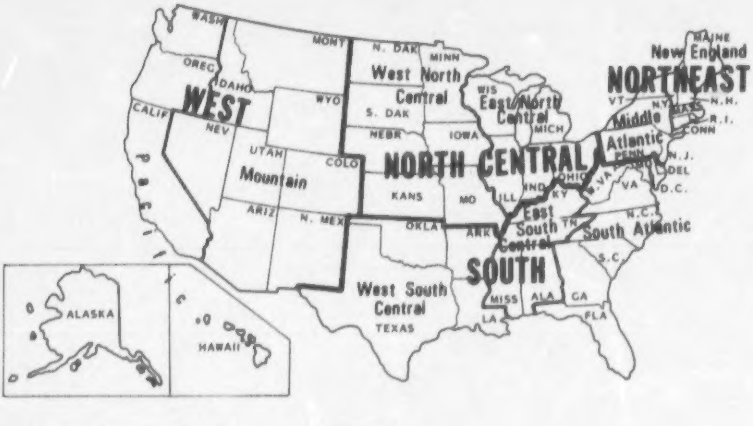
Ohio, Michigan, Indiana, Illinois, and Wisconsin and the West North Central states of Minnesota, Iowa, Nebraska, Kansas, Missouri, and North and South Dakota (Figure 4.1).

In the 1950s, the North Central Census Region slightly increased its share of the national population. Since that post-war decade, its share of the national population has steadily declined.

The high midwestern population growth rates in the 1950s were the result of substantial inmigration into the industrial centers of the East North Central states—the Industrial Midwest. These migrations came from the South and the Northeast. Their effect on overall regional population growth was reinforced by high birth and fertility rates.

Yet during that same period, the more agricultural West North Central states were in the final stages of the agricultural transition during which displacements of population as a result of mechanization on the farm were still occurring. High rates of outmigration combined with low birth and fertility rates meant that, during this period, the West North Central states grew in population at a rate only half that of the East North Central states and the United States as a whole.

Today, because of the dramatic drop in the rate of natural population increase, the West North Central states still share, with the rest of the nation, a slackening rate of population growth. Their rate of population growth has fallen from .9 percent per year in the 1950s, to a .6 percent per year during the 1960s, to .4 percent per year in the present decade. But the agricultural transition was essentially completed in the 1960s, and the West North Central region entered a new stage in its development that is now reflected in its population trends relative to the East North Central region.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HAWAII
N. DAK
MINN
West North Central
S. DAK
NEBR
IOWA
NORTH CENTRAL
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VA
KY
East South Central
TN
N.C.
South Atlantic
S.C.
OKLA
ARK
SOUTH
West South Central
TEXAS
MISS
ALA
GA
LA
FLA

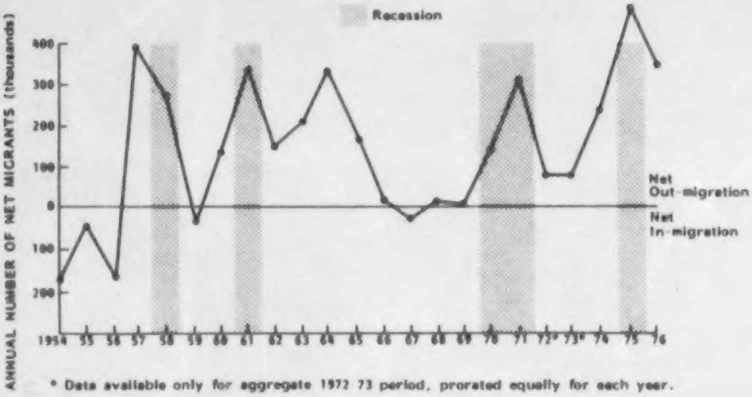
Fig. 4.1. Census divisions and regions

During the 1960s, the West North Central states lost a net of nearly 600,000 persons through out-migration. In the 1970s, the rate of outmigration has declined to one-third of the previous rate. In contrast to the 1950s, the West North Central's population growth rate has surpassed that of the more industrialized East North Central states. And despite the continued increase in agricultural productivity and the concomitant continued decline in the number of persons required to operate America's farms, the labor force in the West North Central states increased from approximately 5.5 million in the 1950s to 7.5 million in 1975.

If the 1930s, 1940s, and 1950s were the decades of economic adjustment for the West North Central states, the 1960s, 1970s, and 1980s—and most probably the 1990s—must be regarded as the decades of transition for the Industrial Midwest. Though the population and employment losses of the Industrial Midwest during the 1970s do not approach those of the Middle Atlantic states, the population growth rate of the East North Central region has declined from a rate identical to that of the nation as a whole in the 1950s to almost no population growth in the 1970s. As in the rest of the United States, birth rates have declined dramatically in the Industrial Midwest since 1960—from 23.7 to 15.0 births per 1,000 in 1974. This slowdown in natural population growth rates has been reinforced in the East North Central states by a substantial reduction in the number of inmigrants. In contrast to patterns of inmigration in the 1950s, the Great Lakes states experienced net outmigration in the 1960s. In the 1970s, outmigration has increased in excess of five times the 1960-1970 rate. With the exception of Wisconsin, the other states around the Great Lakes have all experienced net outmigration. This region's 58 metropolitan areas alone have lost 925,000 residents through net outmigration. Only 14 metropolitan areas in the Great Lakes region experienced net inmigration over the 1970-1975 period. Fifteen of the region's Standard Metropolitan Statistical Areas (SMSAs) have had absolute population losses between 1970 and 1975. For the 1974-1975 period, the number of SMSAs with absolute population losses jumped to 26.

Migration from the Great Lakes region has correlated very closely with the national business cycle. Major upward surges in outmigration occurred in 1957-58, 1961, 1970-71, and 1974-75—years of major economic recession in the United States (Figure 4.2). Major abatements of outmigration, and even some periods of inmigration, occurred in the recovery and high employment years of 1959, 1965-69, and 1974-73. Thus, while in the aggregate an increase in net outmigration has been the trend, the pattern of movement follows a decidedly cyclical pattern. Unlike what appears to be taking place in the Northeast, where a significant jump in outmigration has occurred, there is no clear evidence yet of a secular "leap" or acceleration in migration from the region. Rather it is a cessation of inmigration that accounts for the increase in the net outmigration.

Through 1971, the stream of non-white inmigrants moving from the South into the East North Central region was persistent and



* Data available only for aggregate 1972 73 period, prorated equally for each year.

Fig. 4.2. Total net migrants, North Central Region, 1954-1976

Source: U.S. Bureau of the Census [6]

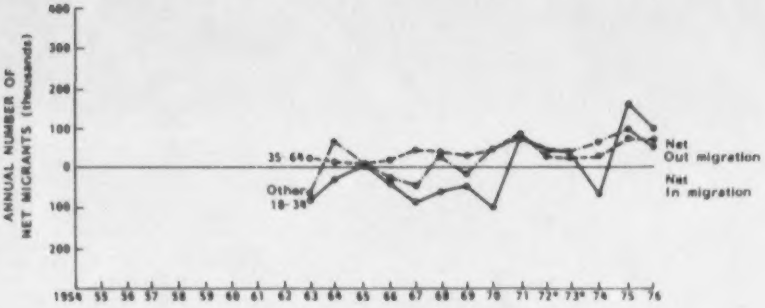
steady. However, since 1971 this pattern has changed. In every year since 1971, except 1975, there was net outmigration of non-whites from the North Central to the South. During all these years, except 1974, there was also substantial outmigration of whites.

In the 1963-76 period, the "young workers" group (ages 18-34), apparently quite sensitive to cyclical factors, had shifted from a large net inflow in the late 1960s to a substantial and volatile net outflow in the 1970s (Figure 4.3), contributing considerably to the shift in total migration; the "non workers" group (age under 18 or over 65) has also contributed heavily to this trend, with essentially neutral flows in the late 1960s being replaced by a steady outflow in the 1970s; "mature workers" (ages 35-65) have not contributed to the overall trend, their net migration pattern characterized by a steady moderate net outflow.

There appear to be structural as well as cyclical reasons for these shifts from net inflow to net outflow. They are related to stagnation or decline in employment growth in the traditional industries of the Industrial Midwest and to the dispersal of employment growth, particularly in manufacturing, away from the old centers and regions of concentration. The effects of this shift can be seen both within the Midwest and between the Midwest and the rest of the country.

Changing Distributions of Economic Activity

Prior to World War II, the northern Manufacturing Belt of the nation, composed of the Northeast and East North Central regions, contained almost three-fourths of all manufacturing jobs in the



* Data available only for aggregate 1972 73 period, prorated equally for each year.

Fig. 4.3. Net Migration from North Central Region to South, by age, 1963-1976

Source: U.S. Bureau of the Census [6]

country. As recently as the 1950s, it contained nearly two-thirds.

But in the last several decades, manufacturing employment has dispersed throughout the United States in two ways: 1) out of the metropolitan core areas where it was located in the period before and just after the turn of the century; and 2) away from the regions of former concentration. In 1973, the South surpassed the Northeast in its manufacturing employment and the South can be expected to surpass the North Central Region in its total manufacturing employment by 1985.

Even within the North Central Region, these patterns of dispersal can be discerned clearly. As in the nation as a whole, new manufacturing growth is occurring at the periphery of the old manufacturing centers and regions. In consequence, while the older manufacturing centers of the East North Central are suffering from substantial losses in manufacturing employment, the formerly agricultural areas of the West North Central region to the west of Chicago are registering gains.

From 1960 to 1975, manufacturing employment dropped .2 percent for the East North Central, but it increased 24.5 percent for the West North Central. Over the same period, the national increase in manufacturing employment was only 8.8 percent. Growth in the West North Central has been matched by growth in other segments of the nonagricultural labor force. In 1950, 24.2 percent of the region's nonagricultural labor force was engaged in manufacturing. Yet despite substantial expansion in manufacturing employment, that share dropped to 20.6 percent in 1975. Growth in nonmanufacturing employment accounts for the declining share of manufacturing.

Regional dispersal of manufacturing employment growth is matched by dispersal at the sub-regional level—on or beyond the periphery of metropolitan regions into nonmetropolitan areas along the interstate highways.

Although more than 77 percent of the increase in total employment in the Great Lakes states took place in the metropolitan areas (SMSAs) between 1966 and 1973—and 61 percent in the SMSAs with over one million population—five of the metropolitan areas of over one million population lost manufacturing employment during the same period with only the Minneapolis, Cincinnati, and Columbus SMSAs showing gains (Table 4.2).

While the large metropolitan areas were losing 12,500 manufacturing jobs, the smaller metropolitan areas were gaining 38,000 jobs. Most important however, is the fact that, of the 165,200 manufacturing job gains in the Great Lakes states over the 1966-1973 period, only 25,500 were in metropolitan areas; thus, almost 140,000 manufacturing jobs were realized in nonmetropolitan areas, a national pattern (Table 4.3).

From 1969 to 1973, personal income from the manufacture of durables increased 46 percent among nonmetropolitan residents, as opposed to only 25 percent among metropolitan residents. Personal income increased 33 percent and 24 percent respectively due to the manufacture of nondurables.

This shift from metropolitan to ex-urban and nonmetropolitan locations in manufacturing employment growth has profound implications for many of the urban areas of the Industrial Midwest. The vast majority of the 58 metropolitan areas in the region have an employment percentage in manufacturing higher than the national average. Of the 11 cities that do not, nine are state capitals or university towns. The capitals and university towns are the same cities that have the fastest growth rates, the highest percentage of new housing, and the lowest unemployment rates in the Midwest. That is no coincidence. These cities mirror the economic and social profile of the post-industrial economy into which we are now moving.

Between the business peak year 1973 and the cyclical trough year 1976, almost half of the nation's manufacturing job losses were in the Industrial Midwest; 90 percent of these took place in the region's metropolitan areas (Table 4.4). The problems posed for older cities by the dispersal of population and economic activity is compounded by the low or declining rate of job growth within the traditional manufacturing sectors of the Industrial Midwest.

During the 1966-1973 period, national growth rates in durable and non-durable production line manufacturing jobs were 6.1 percent and 4.2 percent respectively, the Great Lakes states excluded (Figure 4.4). The growth rates in the Great Lakes states were only 2 percent and 0.8 percent, respectively, while they have failed to capture a "fair share" of the nation's non-manufacturing job growth.

Table 4.2. Great Lakes Region SMSAs: Total employment, manufacturing employment change, 1966-1973

	Total employment change 000's of jobs	Percent	Manufacturing employment change 000's of jobs	Percent
SMSA's > 1,000,000 population				
Chicago	+239.3	+10.0	-21.9	- 2.3
Detroit	+142.0	+11.0	-8.5	- 1.4
Minn.-St. Paul	+155.5	+27.7	+25.4	+13.6
Cleveland	+ 51.0	+ 7.5	- 8.9	- 2.9
Milwaukee	+ 55.5	+12.0	- 9.0	- 4.1
Cincinnati	+ 73.0	+19.2	+ 6.4	+ 4.1
Indianapolis	+ 53.2	+16.3	- 1.4	- 1.1
Columbus	+ 82.3	+30.5	+ 5.4	+ 5.6
	+851.9	+19.8	-12.5	- 0.5
SMSA's between 500,000 - 1,000,000 population				
Dayton	+ 30.2	+12.5	- 0.2	- 0.2
Toledo	+ 42.3	+22.0	+10.0	+11.7
Akron	+ 22.4	+12.0	- 0.1	- 0.1
Gary-Hammond-E. Chicago	+ 18.5	+10.0	+ 2.3	+ 2.2
E. St. Louis	+ 2.3	+ 2.0	- 8.7	-16.4
Grand Rapids	+ 32.4	+20.5	+ 7.2	+10.0
Youngstown-Warren	+ 26.6	+17.5	+ 9.5	+11.9
Flint	+ 5.7	+ 3.8	- 5.7	- 6.4
	+180.4	+13.0	+14.3	+ 2.0
SMSA's < 500,000 population				
Lansing-E. Lansing	+ 19.1	+20.3	+ 2.0	+ 4.6
Canton	+ 12.5	+11.1	- 2.1	- 3.3
Fort Wayne	+ 27.1	+23.1	+ 7.5	+13.8
Davenport-Rock Island-Moline	+ 10.3	+10.0	- 2.2	- 4.6
Peoria	+ 22.9	+22.7	+ 4.3	+10.0
Madison	+ 20.4	+31.2	+ 1.6	+10.7
Evansville	+ 18.6	+22.6	+ 4.6	+12.6

Table 4.2. (continued)

Appleton-Oshkosh	+ 9.0	+11.8	- 6.8	-15.2
South Bend	+ 10.1	+12.3	- 2.0	- 5.7
Rockford	+ 12.0	+13.2	+ 1.8	+ 3.5
Lorain-Elyria	+ 12.5	+21.0	+ 2.6	+ 7.2
Duluth-Superior	+ 5.0	+ 8.3	- 3.3	-24.2
Kalamazoo-Portage	+ 9.8	+14.5	- 0.6	- 1.7
Ann Arbor	+ 16.7	+27.7	+ 5.6	+17.0
Hamilton-Middletown	+ 7.3	+13.7	+ 1.6	+ 5.8
Saginaw	+ 9.2	+14.8	+ 4.0	+13.0
Lima	+ 8.3	+15.3	+ 2.2	+ 8.3
Springfield, OH	+ 7.5	+18.6	+ 1.6	+ 8.0
Battle Creek	+ 4.1	+ 8.4	+ .04	+ .2
Springfield, IL	+ 8.1	+17.1	- 1.7	-14.5
Muskegon-Musk. Hgts.	- 1.6	- 3.4	- 6.4	-22.8
Terre Haute	+ 7.8	+20.6	+ 0.9	+ 6.6
Racine	+ 11.9	+28.4	+ 6.4	+28.4
Steubenville-Weirton	- 0.4	- 0.7	- 1.8	- 5.7
Champaign-Urbana-Rantoul	+ 7.8	+28.3	+ 0.5	+10.1
St. Cloud	+ 8.5	+42.8	+ 2.2	+42.2
Jackson	+ 2.4	+ 5.7	- 1.8	- 8.7
Anderson	+ 1.8	+ 4.1	- 1.8	- 6.1
Mansfield	+ 7.0	+16.7	+ .2	+ 1.0
Muncie	+ 4.1	+11.7	- 0.4	- 2.3
Moorhead, MN	+ 8.9	+34.8	+ 1.0	+ [illegible]
Decatur	+ 5.3	+13.4	+ 1.8	+10.1
Eau Claire, WI	+ 7.6	+32.5	+ 1.7	+19.2
Kenosha, WI	+ 0.5	+ 1.8	- 2.9	-15.9
Bay City, MI	+ 3.3	+13.0	- 0.9	- 7.3
Bloomington-Normal, IL	+ 7.7	+30.0	- 0.3	- 4.6
Lafayette-W. Lafayette, IN	+ 6.4	+24.4	+ 2.1	+20.3
Green Bay	+ 12.5	+32.4	+ 3.7	+25.7
Kankakee, IL	+ 3.0	+12.2	- 0.9	- 7.1
Bloomington, IN	+ 3.6	+17.1	- 0.4	- 2.9
Rochester, MN	+ 6.2	+27.0	+ 0.6	+11.2
La Crosse, WI	+ 4.0	+17.6	- 0.5	- 5.3
	+368.8	+16.8	+23.7	+ 2.3

SOURCE: U. S. Department of Commerce [14, 15].

Table 4.3. Great Lakes: Total employment, manufacturing employment change, 1966-1973

Area	Total employment change 000's of jobs	Percent	Total manufacturing change 000's of jobs	Percent
Illinois	+ 389.3	+11.6	- 5.3	- 0.4
Indiana	+ 241.7	+17.2	+ 47.8	+ 6.9
Michigan	+ 311.9	+13.2	+ 11.3	+ 1.0
Minnesota	+ 241.2	+27.9	+ 42.7	+15.7
Ohio	+ 463.2	+15.9	+ 51.9	+ 3.8
Wisconsin	+ 204.9	+18.5	+ 16.9	+ 3.4
Great Lakes	+ 1852.2	+15.4	+165.2	+ 3.1
United States	+10541.0	+20.8	+996.7	+ 5.3
Great Lakes: SMSAs				
SMSAs > 1 million	+ 851.9	+19.8	- 12.5	- 0.5
SMSAs .5 to 1 million	+ 180.4	+13.0	+ 14.3	+ 2.0
SMSAs < .5 million	+ 368.8	+16.8	+ 23.7	+ 2.3
	+ 1401.0		+ 25.5	

SOURCE: U.S. Department of Commerce [14, 15].

Table 4.4. Great Lakes: Total employment, manufacturing employment change, 1973-1976

Area	Total employment change 000's of jobs	Percent	Total manufacturing change 000's of jobs	Percent
Illinois	23.0	+ .5	- 148.8	-11.0
Indiana	- 18.1	- .9	- 76.4	-10.1
Michigan	- 18.0	- .5	- 120.5	-10.2
Minnesota	+ 76.7	+5.3	- 14.3	- 4.3
Ohio	- 13.1	- .3	- 132.8	- 9.3
Wisconsin	+ 63.9	+3.8	- 19.4	- 3.6
Great Lakes	+ 114.4	+ .7	- 512.2	- 9.2
United States	+2547.0	+3.3	-1112.0	- 5.5
Great Lakes: SMSAs				
SMSAs > 1 million	- 216.8	-2.6	- 297.7	-11.3
SMSAs .5 to 1 million	- 71.9	-4.2	- 93.5	-14.0
SMSAs < .5 million	- [illegible].8	-0.2	- 72.2	- 9.1
	- 292.5		- 463.4	

SOURCE: U.S. Department of Commerce [10, 11].

In 1966 the Industrial Midwest had 25 percent of all U. S. jobs, with 28 percent of all manufacturing employment. By 1972 the region's share of total employment had dropped to 22 percent, while its share of manufacturing remained at 28 percent. During this period, U. S. employment in manufacturing (excluding the Midwest) had declined from 33 to 28 percent of total employment. The Industrial Midwest remained tied to this slow growth sector, with manufacturing employment declining from 45 to 37 percent of regional employment.

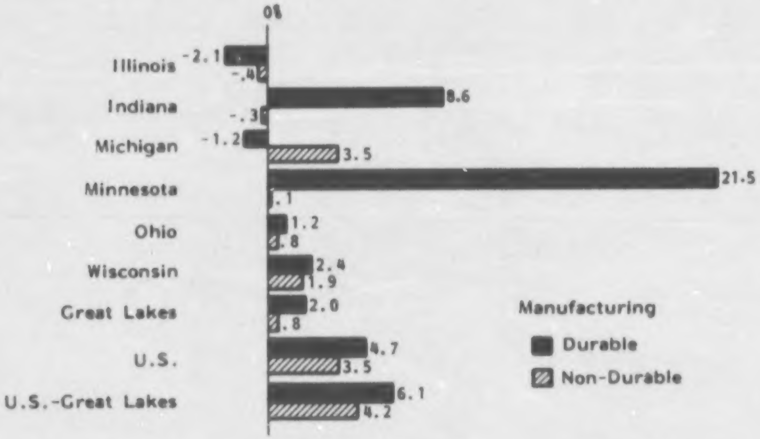


Fig. 4.4. Percentage change in manufacturing employment, Great Lakes Region, 1966-1973

Source: U.S. Department of Commerce [14, 15]

During the period 1966-1973 the Great Lakes states had a positive change in total employment of 15.4 percent, but from 1973 to 1976 the change was only +0.7 percent, far below the national figure of +3.3 percent. Only Wisconsin and Minnesota experienced relatively high percentage increases in employment from 1973 to 1976; Ohio, Indiana and Michigan registered actual employment losses. All six states had net losses in manufacturing during the period.

Still, the labor force is growing even as the regional population stabilizes. A simulation carried out by the Academy for Contemporary Problems estimates the number of jobs which might be needed in the Great Lakes states to maintain an unemployment rate of 5 percent in the future, given no migration by workers. Projections of labor force participation and employment growth show an unemployment rate of 14.5 percent by 1985. This leaves a job shortfall of 2.175 million just to reach the 5 percent unemployment level. But, because the teenage population will be smaller, the projected shortfall in 1990 is only 270,000 more than in 1985 (Table 4.5).

Of course, workers will migrate in and out of the region. But the large growth in the labor force is a national trend, and there will be fewer opportunities for people to move to other regions and find employment. The magnitude of the job shortfall is an indication of an increasing unemployment problem in the region.

Yet slower regional growth in manufacturing in the Industrial Midwest is not being compensated for by growth in other businesses.

Table 4.5. Projected unemployment versus 5 percent unemployment in the Great Lakes (without migration)

	(1)[a] Labor force (000's)	(2)[b] Employment (000's)	(3) Percentage unemployed	(4) Jobs needed to achieve 5 percent unemployment (000's)
1980				
Great Lakes (NPA)	21,453.9	19,199.6	10.5%	1,181.6
Great Lakes (BLS)	21,383.3	19,199.6	10.2	1,114.5
1985				
Great Lakes (NPA)	22,969.2	19,645.3	14.5	2,175.4
Great Lakes (BLS)	--	--	--	--
1990				
Great Lakes (NPA)	23,728.4	20,101.3	15.3	2,440.7
Great Lakes (BLS)	23,295.9	20,101.3	13.7	2,029.5

[a] Calculated by applying National Planning Association or Bureau of Labor Statistics labor force participation rates to population projections (U. S. comparisons from NPA rates).

[b] Projected by assuming that annual compound employment growth rate will be the same as for 1970-1975, 0.46 percent.

SOURCES: National Planning Association [5], and U. S. Bureau of Labor Statistics [12].

Between 1966 and 1973, wholesale/retail trade employment and financial services employment increased by 27.3 percent and 33.1 percent, respectively, in the United States; these growth rates were only 22.8 percent and 27.8 percent respectively in the Great Lakes region. Total employment grew 15.4 percent within the region during this period, compared with a national (United States minus Great Lakes) rate of 22.4 percent.

The nation is entering a "post-industrial age," with manufacturing playing a less important role in providing jobs. Most of the cities of the Industrial Midwest, originally developed around a compact manufacturing base, must now be adapted to meet the requirements of a new economy more decentralized than in the past.

Urban Consequences of Economic and Population Shifts

Because most of the cities of the Industrial Midwest contain large concentrations of Americans for whom production jobs are the most desirable employment alternative and these jobs are expanding at a slow rate nationally as well as regionally, the human consequences of these shifts are already obvious.

The 58 metropolitan areas of the Great Lakes states lost more than a million in population during the 1970s through outmigration. Only 14 metropolitan areas in that section of the Midwest experienced inmigration during the first half of the decade. In consequence, entire metropolitan areas, not just central cities, lost people. Fifteen of the Great Lakes metropolitan areas had absolute population losses between 1970 and 1975. More recently, the number of East North Central metropolitan areas which lost population jumped to almost 30.

The older, skilled, blue-collar workers who are displaced by reductions in manufacturing employment are usually not very mobile. They own homes in communities where such homes will be harder to sell than before. They are unable or unwilling to make major occupational changes. Family and other ties make them poor prospects for migration even if jobs were available for them elsewhere.

The unskilled poor who in prior decades moved to these industrial centers from other rural regions in the search for a job are now stranded. The relative concentration of the poor, unemployed in central cities and inner suburbs is increasing, while declining in the outer suburbs and nonmetropolitan areas.

Large central cities throughout the United States began experiencing net outmigration in the 1950s. During the 1960s, four of every 10 SMSAs had net migration losses, but these were usually more than offset by the natural population increase within SMSA boundaries. Urban areas were still growing 8.5 times faster than nonurban areas. In the 1970s, however, the birth rate declined and net migration away from large central cities and their surrounding suburbs accelerated. By 1974, 10 of the largest 25 SMSAs in the United States had experienced no growth.

Since 1970, most metropolitan areas throughout the United States have experienced a general depopulation of the central city and a slowing growth in the suburbs. The outmigration from nonmetropolitan areas has lessened and these areas are actually realizing net gains through inmigration. As a result, the nonmetropolitan population has been growing at a rate of about 6.3 percent since 1970, compared with a metropolitan population growth rate of 3.6 percent.

Mobility is highest among persons in their 20s. Among 25-29 year-olds, 72 percent lived in a different residence in 1975 than in 1970. Long distance moves (intercounty or interstate) were relatively more frequent among whites and among the better educated.

Short distance movers showed the greatest shift away from the central cities in the 1970s. Persons moving away from the central cities tended to be slightly older (median age = 27.6 years) than those moving in (median age = 25.1 years). Nationally, blacks made up 12.3 percent of inmigrants to central cities from 1970 to

1975, but only constituted 7.5 percent of the outmigrants. During this period the mean family income of blacks migrating from rural areas to central cities was about half that of blacks already living in the central cities. In addition, the income levels of outmigrants were generally higher than those of inmigrants; from 1970 to 1974 the nation's central cities recorded a net loss of $29.6 billion in the aggregate personal incomes of their residents.

These same shifts also threaten the fiscal health of many municipalities that have historically relied upon manufacturing as a mainstay in their economic base. They are reinforced by the suburbanization (and ex-urbanization) of middle and upper income groups and the decentralization of retailing and other white collar jobs out of the central cities—a national trend well over five decades old that is reflected in all urban areas in the country above a certain size, whether specialized in manufacturing or not. Most of the region's older cities lost their ability decades ago to "capture" the benefits of such growth through annexation because they have long since been surrounded by separately incorporated municipalities.

Thus, the majority of the old manufacturing-based cities in the Industrial Midwest are facing serious problems. They are burdened with obsolescence and blight. They have inherited a large population of poor from the South-to-North migrants of previous decades, many of whom are now trapped economically and socially by the steady exodus of employment from the central cities. These same cities, are, in turn, required to provide public services at increasing cost at the same time that their local tax base is beginning to deteriorate. As manufacturing firms continue to locate in nonurban areas and continue to substitute capital for labor as it modernizes, many of the manufacturing-based urban areas can expect increasing difficulties.

The challenge in the immediate term is to enable these older cities to meet the needs of their citizens and re-develop, even in the face of deteriorating tax bases and escalating costs of service provision.

The long-term challenge is to bring about a restructuring of the urban economy so that it can support a population with rising incomes and an improving quality of life.

To bring about such a transition effectively and with as little human travail as possible is a major challenge to the creativity of the public and private leadership in the Industrial Midwest. It requires that the prospective employment base that can underpin each of these urban economies in the future be defined. Although these new urban economies will necessarily rely much less heavily upon manufacturing as a source of employment, it seems quite likely that they will be insufficient to:

1) Support the magnitude of population that some of these metropolitan areas know now or knew in the past; and

2) Absorb the many young, poorly trained unemployed currently residing in the central cities.

An urban strategy for the Industrial Midwest will have to consist of a series of carefully coordinated elements if the manufacturing cities are to be brought successfully through a difficult economic transition. The strategy must include:

1) Physical and economic development components designed to create a physical environment conducive to new economic development. Incentives; space; services; and the quality of the operating environment necessary to attract and retain potential residential, nonmanufacturing, and specialized high-employment growth manufacturing re-uses appropriate to central city locations will have to be provided.

2) A labor market component designed not only to train or retrain the employed or under-employed for available jobs in the metropolitan areas (together with transportation to those jobs), but to provide affirmative assistance also to those choosing to move to jobs located elsewhere outside the local labor market.

3) Social and neighborhood components aimed at correcting the social disincentives and impediments to economic revitalization, i.e., declining schools, high crime rates, and chronic welfare problems while improving neighborhood housing and living conditions; enabling workers to live anywhere of their own choosing in the metropolitan area; and diversifying the mix of income groups residing in the city itself. The central areas must become competitive with suburbs by offering a unique residential environment. No city can long survive solely as a reservation for the poor. A diversified residential base is essential to both the restoration of a stable tax base and the redevelopment of the economic base in the central areas.

4) A fiscal component designed to assist these cities in transition to meet the needs of their inhabitants in the face of tax base deterioration while they shift toward a more viable economic base. While intergovernmental fiscal transfers from federal and state governments offer the only immediate device for accomplishing this aid, long-term solutions will depend upon a fifth element.

5) Governmental re-structuring. The structure, functions, and financing of local governments in these older urban areas no longer match the social and economic realities that exist. States will confront the urgent necessity for local government streamlining and reform in these areas in the 1980s. It is likely that the growing economic problems of these areas will compel such reforms despite longstanding political opposition because the suburban areas must come to recognize their common interest with the city in economic revitalization.

Households, Population Change, and Public Policy

Since 1967, about the time the first cohorts of the post-war generation began entering the prime household formation age group of 18 to 28, the number of U. S. households has been increasing at about 1.5 million a year. This is an increase of 0.5 million a year over the early and mid-1960s. The sharp increase in the number of persons in their 20's and early 30's will keep net household formation around 1.5 million until the mid-1980s.

In the 1990s, household formation will probably decline to less than one million a year because of the dramatic drop in births in the 1960s and the 1970s. If the fertility rate remains at its current level, the annual increase in households after the year 2000 should remain at a rate of around one million. Because the demand for housing varies with age and income, the implications for the housing market require more complex assessment than is yielded by straight-forward extrapolations.

In the United States as a whole, four out of every nine additional households since 1970 have been headed by someone under 30. Recent social and economic trends have resulted in significant increases in the number of single-person households. Divorce is much more common than in the past and men and women are not marrying at as early an age as formerly. In 1965, 60 percent of men and 40 percent of women aged 20 to 24 were as yet unmarried, compared with 53 percent and 28 percent respectively in 1960. Between 1970 and 1975, the number of households headed by primary individuals in the under-35 age group increased 103 percent. Thus, even a stable population would have had an 8 percent increase in households from 1970 to 1976 because more adults are remaining single. The result has been increased demand for low- and moderately-priced apartments and mobile homes and changes in housing preferences over those of the 1950s and early 1960s.

By 1981, however, as the War Baby generation ages, four of nine new households will be headed by persons 35 to 44 years old. The demand for single-family housing can be expected to increase, though not at rates comparable in relative terms to those in the past. The number of persons under 30 will begin to decrease and an increase in housing vacancies can be predicted beginning in the late 1980s.

As the population approaches middle age and its associated improved financial position, households can be expected to upgrade their homes and perhaps purchase second homes. Of course, lower fertility rates, increasing numbers of single-parent families, and rising transportation and energy costs will shift the patterns of housing demand. A large house in the suburbs may not be as desirable or as practical as in the past, and older housing close to the central business district can be expected to become more attractive to more middle and upper income households. Suburban housing built in the 1950s may become financially attractive to central city minorities who cannot presently afford it, thereby accelerating the rate of minority suburbanization.

The over-65 age group will experience a slow but steady relative increase over the next two decades. The elderly tend to move to smaller homes, low- and moderately-priced apartments, and mobile homes. As the proportion of elderly in the population increases, their housing needs will have a greater impact on the market.

In the Great Lakes states, the percentage increase in households was lower than the national average during both the 1960-1970 and 1970-1974 periods. Between 1970 and 1974, only Minnesota and Wisconsin had percentage increases equal to the national average; Illinois and Ohio trailed particularly far behind (Table 4.6).

In growth areas, there will be increased demand for housing of all types. This will require careful planning by local government officials to avoid future problems. Unfortunately, many small governmental units may not be equipped to handle such planning, and local residents may resent changes. The issue of how much control a local community has over its own growth is likely to be raised with more frequency as migration toward nonmetropolitan areas continues. The central cities and the older suburbs, on the other hand, will have to deal increasingly with the housing demands of the poor and elderly, groups left behind in the national trend toward decentralization.

The annual number of housing starts in the United States has fluctuated dramatically since the early 1960s, ranging between 1.5 and 2.3 million new units annually during the 1970s.

The high household formation rates that will prevail over the next 10 years present an opportunity for urban reconstruction in older cities that should not be missed, for once this transitional period is over, the rate of household formation will decline and with it one more force that can be capitalized upon for urban reconstruction.

Housing starts in the North Central states were 35 percent higher in 1976 than in 1966 despite the fall off in population growth. Nonmetropolitan areas have experienced the greatest decrease in vacancy rates since 1965, which is in keeping with the population shifts to those areas.

Central cities had the highest vacancy rates in 1976 and showed the smallest improvement since 1965. In 1976, the North Central Region had the second highest vacancy rate for rental units but had a low homeownner unit vacancy rate, a showing that follows from the decline of inmigration to the region and the continued outmigration of the young and the elderly, the people most likely to demand rental housing (Table 4.7).

As inmigration of the poor to the older cities has halted, the pressure on the market for older housing has slackened substantially and increasing amounts of it stands vacant or abandoned, much of it drifting into public ownership through tax delinquency.

This lessening of demand by the poor for housing in the older cities has been accompanied by a small but growing renewed interest in central city housing by middle and upper income households. In part, this results from increasingly high costs for new housing, making older housing a bargain by comparison; a reflection

Table 4.6. Percentage increase in number of households in the Great Lake States, 1960-1970 and 1970-1974

	Households (000's)			Percentage change 1960-70	Percentage change 1970-74
	1960	1970	1974		
Ohio	2,852	3,289	3,515	15.3	6.9
Indiana	1,388	1,609	1,747	15.9	8.5
Illinois	3,085	3,502	3,705	13.5	5.8
Michigan	2,239	2,653	2,897	18.5	9.2
Wisconsin	1,146	1,329	1,470	16.0	10.6
Minnesota	992	1,154	1,276	16.3	10.6
Region	11,702	13,536	14,610	15.7	7.9
U.S.	53,021	63,450	70,236	19.7	10.7

	Average annual percentage change, 1960-70	Average annual percentage change, 1970-74
Ohio	1.4	1.7
Indiana	1.5	2.1
Illinois	1.3	1.4
Michigan	1.7	2.2
Wisconsin	1.5	2.6
Minnesota	1.5	2.6
Region	1.6	2.0
U.S.	1.8	2.6

SOURCE: U.S. Bureau of the Census [7].

Table 4.7. Average annual rental and homeowner vacancy rates.

	1960	1965	1966	1970	1975	1976
Rental						
United States	8.1	8.3	7.7	5.3	6.0	5.6
Within SMSA's	7.0	8.0	7.0	4.9	6.1	5.7
Central cities	NA	8.1	7.1	5.3	6.6	6.2
Outside of central cities	NA	7.8	6.8	4.3	5.4	5.1
Outside of SMSA's	10.3	8.8	9.2	6.4	5.7	5.1
Northeast	4.9	5.6	5.3	2.7	4.1	4.7
North central	8.3	7.2	6.5	5.8	5.7	5.6
South	9.5	9.0	8.5	7.2	7.7	6.4
West	11.0	11.9	10.9	5.6	6.2	5.4
Homeowner						
United States	1.3	1.5	1.4	1.0	1.2	1.2
Within SMSA's	1.3	1.6	1.6	1.0	1.3	1.2
Central cities	NA	1.5	1.5	1.1	1.4	1.4
Outside of central cities	NA	1.5	1.4	0.9	1.3	1.1
Outside of SMSA's	1.4	1.6	1.3	1.1	1.1	1.2
Northeast	1.0	1.0	0.9	0.8	1.0	1.0
North Central	1.2	1.2	1.0	1.0	1.0	1.0
South	1.6	2.0	1.8	1.2	1.5	1.6
West	1.4	1.9	2.1	1.1	1.5	1.2

SOURCE: U.S. Bureau of the Census [8].

of the changing character of households; and in part, a function of energy costs and the inconveniences of commuting.

In 1974, 57 percent of total U. S. households were adults-only (singles and childless couples). Between 1970 and 1974, 71 percent of the increase in all types of families consisted of households of married couples and related adults with no children. For these households, central city housing may often seem more convenient than the suburbs—closer to jobs, entertainment, and cultural and recreational activities.

Although renovation of central city housing is increasing, the level of activity to date is relatively insignificant when compared with total new housing in metropolitan areas. Renovation areas are generally small, with predominantly single-family homes in potentially attractive areas close to the central business district. Those renovating homes tend to be white collar professionals—singles and young marrieds with few or no children—in the middle- and upper-income brackets. A 1975 Urban Land Institute study estimated that about 45 percent of 68 North Central SMSAs with central city populations of greater than 50,000 were experiencing renovation of this kind [a].

There continue to be obstacles to these kinds of redevelopment. Many central city neighborhoods are considered "high risk" areas by lending institutions and insurance companies, making it difficult to finance renovations. Property costs, taxes, and crime rates are high, and the quality of the public schools is low.

As employment decentralizes, the commutation advantage of central city housing is diluted. Until the advantages of central city living begin to out-weigh the disadvantages, large numbers of middle- and upper-income households are not likely to be attracted into city neighborhoods. Yet, providing the problems of low-income displacement can be handled deftly, this rediscovery of urbanity could be one of the most constructive trends with which to work in restructuring and revitalizing the older cities of the Industrial Midwest into diversified, attractive, vibrant albeit smaller, urban places once again.

Population Change and Social Policy

It is possible to plan on the basis of the progress over time of the "War Baby" generation through the age cohorts of our population—up to a point.

We can anticipate, for example, that crime rates will begin to fall as the number of teenagers and young adults in the population declines, simply because of the large number of offenses committed by persons in these age groups.

The passage of the post-war generation through and out of our elementary school systems has dramatically changed many questions confronting school administrators and public officials.

In the late 1960s, as the millions of women born after World War II moved into the prime childbearing age group, some demographers expected an echo of the baby boom. Yet, even with 900,000 more women of childbearing age in 1972 than in 1971, there were 300,000 fewer births. It is now probable that the number of 5-13 year olds will continue to diminish with a corresponding drop in 18-21 year olds in the mid-1980s.

Each of the Great Lakes states experienced losses of elementary school children between 1970 and 1974. The region's 5.6 percent decline in elementary school enrollment is significantly greater than the overall U. S. decline of 3.9 percent. The secondary schools, still showing increased enrollments, will have rapidly decreasing numbers of students as the last of the baby boom generation graduates (Table 4.8).

The effects of the age composition changes are amplified at the local level by migration. Nearly one-third of all migrants are in their 20s; children 5-14 years old make up another 24 percent. Heavy outmigration not only reduces the actual number of children in the school system but reduces the future local population of children. Large central cities and their suburbs are experiencing significant enrollment declines.

The lessening of what are often overcrowded conditions could be viewed as an opportunity to improve the quality of education: lowering pupil-teacher ratios, offering alternative schooling opportunities, and generally having more resources per pupil. Instead, in the face of inflation and fiscal constraints, school administrators are faced with decisions to close underused facilities; eliminate art, music, and sports programs; increase class sizes; and lay off school personnel. The selectivity of migration causes large urban areas to lose the better-educated, better-paid citizens and leaves behind the elderly and the poor. Hence, the tax bases in the central cities and some suburbs have declined, making cities less able to afford good schools. In addition, the per pupil costs of education continue to increase. Thus, enrollment decline—which could be a trend helping to improve the quality of education in cities—has not been used as an opportunity. Instead, it has become a controversial problem of resource allocation.

In the metropolitan and nonmetropolitan areas experiencing net inmigration, school systems must absorb disproportionate numbers of children. These areas also face higher than average rates of natural increase. Many local governments, especially in the nonmetropolitan areas, may be ill-equipped to handle such changes. Residents may oppose growth and resent growth and resent any tax increases necessary to provide educational services. However, if the fertility rate continues at its present level, the number of 5-13 year olds could begin to increase again in the mid-1980s.

While many school systems now find themselves with an oversupply of classrooms and teachers, declining enrollments in the primary and secondary schools discourages students from training

Table 4.8. Primary and secondary school enrollments in the Great Lake States, 1970 and 1974

	1970		1974		Percentage change	
	Primary (000's)	Secondary (000's)	Primary (000's)	Secondary (000's)	Primary	Secondary
Ohio	1,715	709	1,617	761	-5.7	7.3
Indiana	876	348	834	373	-4.8	7.2
Illinois	1,668	656	1,609	711	-3.5	8.4
Michigan	1,594	572	1,439	685	-9.7	19.8
Wisconsin	671	309	655	332	-2.4	7.4
Minnesota	629	285	602	299	-4.3	5.0
Region	7,153	2,879	6,756	3,161	-5.6	9.8
U.S.	32,597	13,022	31,333	14,076	-3.9	8.1

SOURCE: National Center for Education Statistics [3, 4].

for careers in education. The reserve supply of teachers trained in the 1970s should be greatly reduced by the mid-1980s, unemployed teachers having either entered other fields or dropped out of the labor market entirely. If the number of school-aged children increases, it could well come at a time when the number of potential new teachers (18-21 year-olds) will begin to decrease.

Teacher training inevitably involves a time lag of at least four years between changes in demand and changes in the supply of teachers, allowing for no time lost in the response itself. This lag makes it entirely plausible that in the late 1980s, we could see another teacher shortage.

Health

Because the population of the Industrial Midwest is increasing only slowly, there may already be an over-supply of hospital beds in the region, accompanied by a diminished demand for obstetric facilities and obstetric and pediatric professionals. Furthermore, as the midwestern population disperses in much the same way as the rest of the national population, there is a potential mismatch between where health services are located and where they are needed.

In 1974, the Industrial Midwest had 21.2 percent of the nation's population and 20.7 percent of all hospital beds. The region is home to 20.4 percent of the nation's population over 65, but had 23.9 percent of all patients in nursing and related care homes with 24.3 percent of all beds in those facilities.

The high cost of health care and the maldistribution of health professionals and facilities in terms of the new patterns of settlement are vital issues for public policy.

Once again, however, there are opportunities for urban reconstruction implied in the existence of large, specialized medical institutions in many of the cities of the Industrial Midwest. These institutions help provide an important element in the central city economic base.

Public Services and Population Change

In the 1960s, government employment in the United States, including that in the Industrial Midwest, grew at a much greater rate than the population. During this time, federal financial assistance allowed local governments to expand even while local revenues stagnated or declined. By the end of the decade, the influx of these funds had slowed. Recent urban fiscal crises have raised serious questions as to the ability of the large cities to maintain current levels of public services in the face of steady deterioration in their tax base.

Public employment continues to increase in the cities of the Industrial Midwest, despite a weakened tax base. In the region's 15 largest SMSA's, total population increased an average of 2.8 percent between 1970 and 1976; local public employment in these cities increased an average of 17.2 percent.

The selective outmigration of tax-paying firms and the middle class has imposed conflicting pressures on cities. Those least able to financially support public services, yet who have the greatest need for public services, are left behind in the city. To re-attract firms and the middle class, cities must fight high crime rates, renovate public facilities, provide good schools, and support cultural and recreational activities—all in the face of weakening revenues. So, while cities should be cancelling planned service increases, centralizing delivery, employing efficiency measures (including reduced pay levels), and generally reducing local services, they find it self-defeating to do so. Diminished services encourage further outmigration.

There is little question that declining central cities must adjust their public sector to match shrunken fiscal capacities. But where and how such adjustments will take place is open to debate. Some possibilities for adjustment include shifting local responsibilities to regional, state, and federal levels. But because so much of local public expenditure is tied directly to public employees through wages and pension benefits, the growth in public employment may have to be slowed in the Industrial Midwest while efficiency measures are increased to yield more public service per public dollar.

Public employee pension funds, often referred to as financial time-bombs, pose one of the major cost problems for older city governments. Because everything that is done with pension plans in the present has such far-reaching effects, it is difficult for governmental units to predict and prepare for the future effectively. But it is imperative that they do so.

Most public pension plans, unlike those in the private sector, require employee as well as employer contributions. There are two approaches to financing the government's share. The "pay-as-you-go" approach involves no buildup of government funds. Instead, money for payments must be found in the current year's budget to meet their obligations. Because of the current age distribution, this creates a problem of intergenerational equity in that future residents will face higher tax rates to support larger numbers of retirees. If, in the meantime, a community has experienced a shrinking tax base, a fiscal problem may also result.

Fortunately, most plans are funded on an actuarial basis. Certain assumptions made as to the eventual cost of pension benefits and payments made by employees and government into the fund are based on this cost. Because government and employees pay as liabilities accrue, intergenerational equity is better preserved.

One main reason why pay-as-you-go plans are so unstable is that they assume the pension system will reach a point of static equilibrium (retirement equal to deaths) that will be fairly easy to budget yearly. This seldom occurs, as rates of compensation, benefit levels, and the size and composition of the work force change. For this same reason, actuarial assumptions and payment rates must be re-examined regularly in the light of population changes.

For the past few years, a growing number of persons have become eligible for increasingly generous pensions. Public officials, faced with increasing demands from employees and resistance to tax increases from the public, often give employees higher pension benefits rather than raising current wages. This makes it increasingly difficult for future generations to meet pension payments for plans not fully funded in the present.

This problem is compounded by the fact that, as the War Baby generation moves toward retirement age, there will be fewer adults to take its place in the work force. It is therefore extremely important that funds are conscientiously kept actuarially at a level sufficient to guarantee financing of the large benefit payments that will begin to come due in about 30 years. Too many governments have been skipping payments into what seem to be healthy pension funds to help balance strained budgets. Unfortunately, financial problems seldom disappear in one year, and some governments are coming dangerously close to pay-as-you-go status.

There are about 6,000 federal, state, and local public employee retirement systems in the United States. Nearly 80 percent of these plans cover fewer than 100 employees, with 85 percent of all active pension members covered by only 2.3 percent of the systems.

Public employee retirement systems of the state and local governments in the Great Lakes states are broken down by size as shown in Table 4.9. Because of the great variety of benefit packages, there is no typical plan. On the average, about 6 cents of every dollar goes to pay for pension plans at the state and local level.

As the full cost of current retirement plans becomes more apparent, it is expected they will require more tax support. Systems most in need of attention are those of financially troubled urban centers and those of many small areas with uncertain abilities to pay. The larger the system—the broader its jurisdiction and economic base—the more assured it is of having sufficient taxing ability at some future date to cover unexpected pension costs. Full funding becomes less essential.

Ohio is one of the few states in the country to have consolidated its system into a small number of more easily administered plans. Although the differences in government workers' pension needs make a uniform plan impractical, a pension system should have a rational structure.

State-wide conglomeration of pension plans risks bureaucratic inertia and some administrative inflexibility and it presents unique investment problems. However, consolidation can: 1) reduce overall administrative expenses while providing a larger, more qualified staff; 2) spread the risk of adverse mortality; 3) avoid the adverse effects of competing systems, which can play "leapfrog" benefits to an unreasonably high level; 4) eliminate many benefits hassles associated

Table 4.9. Number and membership of employee retirement systems of state and local governments, by membership size of system, 1971-1972

	Total	Number of systems within each membership size class						
		10,000+	5-9,999	1-4,999	500-999	200-499	100-199	100
United States	2,304	110	47	153	126	183	248	1,457
Illinois	280	9	2	2	2	4	12	249
Indiana	129	2	–	2	1	9	16	99
Michigan	128	5	3	10	14	16	31	49
Minnesota	52	3	1	3	4	1	2	38
Ohio	8	4	1	1	--	--	--	2
Wisconsin	70	3	2	--	–	2	--	63
		Membership of systems within each of above membership size classes						
United States	9,089,004	8,205,282	328,344	335,510	86,764	58,890	35,106	39,108
Illinois	475,256	442,229	15,429	7,062	1,168	1,028	1,484	6,856
Indiana	137,650	126,842	-----	2,116	900	2,535	2,290	2,967
Michigan	388,350	327,126	21,166	18,679	9,600	4,589	4,766	2,334
Minnesota	208,317	188,871	6,440	8,567	2,581	463	284	1,111
Ohio	557,991	548,217	8,348	1,417	-----	-----	-----	9
Wisconsin	219,620	202,321	16,346	-----	-----	421	-----	532

SOURCE: U.S. Bureau of the Census[9].

with intra-governmental job changes; and 5) provide a better basic design due to more legislative attention. Organization at the state level seems a practical move, especially in the Industrial Midwest where so many metropolitan areas face uncertain financial futures.

Accurately predicting long-range effects of pension plans is a serious problem. All future expectations should be reflected in stated costs, including at least minimum projections of annual changes in salary and benefit levels. Contributions by government and employees should then be made at a level percentage of income, better guaranteeing a fair intergenerational sharing of pension costs. Work needs to be done on more accurate prediction of eventual costs to prevent benefits from exceeding a jurisdiction's ability to pay.

Summary: Population Change and the Future of the Industrial Midwest

The six states of the Industrial Midwest are different, yet they have certain common characteristics. Agriculture in the region, largely wheat in the north and corn and soybeans in the south, is an important source of the nation's food supply. The economies of northeastern Minnesota and northern Wisconsin and Michigan center around the forests, minerals, and recreational amenities to be found there. Coal and chemical industries are prevalent in southwestern Illinois and southern Ohio and Indiana.

But, it is the industrial belt, stretching from Youngstown through Cleveland, Detroit, Gary, Chicago, and Milwaukee, which dominates the economy of the region. This belt is also what causes the six states to be so closely linked. The region buys and sells more to its own people and industries than it does to the rest of the country; thus, while each state is distinctive in its economic composition, the states and cities of the region face common problems.

Manufacturing, which is so important to the region, has become a slow growth sector of the national economy. In addition, new manufacturing is increasingly dispersing outside the industrially-based central cities and outside the region itself. Population changes have emphasized and even encouraged these shifts and will affect future development in the region.

The region has experienced net population losses from the end of inmigration and a step-up in net outmigration. Even so, the region's labor force is growing. People born during the post-World War II baby boom years are entering the labor market, as are women of all ages. Meanwhile, employment growth in the region has been slower than the national average.

The lower fertility rate, the shifting of the population away from the central cities, and the changing patterns of household formation have important implications for the provision of housing and services such as health care and education. As the region's older cities lose population, local governments are faced with the task of providing increasingly costly public services from shrinking tax bases.

Just as the central cities find it difficult to adjust to decline, government employment continues to increase at a faster rate than the region's population and maintaining the soundness of public pension systems is becoming a pressing problem.

The older, industrially based central cities have been most seriously affected by population changes. It is not inevitable, however, that these cities continue to decline. With planning, the old industrial centers should be able to stabilize and prosper after passing through a difficult period of transition. They will not be as large in population as in the past, nor will they be as dense, but they may well be more livable.

The same is true of the region as a whole. It is likely that what appears to be decline is instead just part of a natural ebb and flow of population and economic activity. The region's role is changing as the role of manufacturing employment in the economy is changing. A decade and a half from now, the economic pendulum may well be swinging back in the region's favor.

The Industrial Midwest will have a smaller, though more equal, share of the national economy than it has enjoyed in the past. The transitional period will require cooperation among all levels of government. The region must build on its strengths and begin to correct its weaknesses. New businesses and expansions must be encouraged, and the growing labor force needs to be trained with skills for the economy now emerging. A cooperative effort with an eye cocked for tomorrow could bring the region successfully through transition. To fail to consciously anticipate the changes tomorrow will bring spells of almost certain frustration and failure.

NOTE

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CHAPTER FIVE

URBAN MIGRANTS TO THE RURAL MIDWEST: SOME UNDERSTANDINGS AND MISUNDERSTANDINGS[1]

Andrew J. Sofranko, James D. Williams, and Frederick C. Fliegel

For decades large metropolitan areas have been growing faster and at the expense of rural, nonmetropolitan areas. It is not surprising then that initial reactions to Beale's [1] evidence for a reversal of historic migration patterns reflected skepticism by some and amazement by others. Questions were raised about whether the reversal was a new trend or simply a departure from the persistent nonmetropolitan to metropolitan flow. By now, however, it has been generally accepted that the "new migration" is a real and relatively important phenomenon. It is broad-based, not confined to nonmetropolitan areas adjacent to large metropolitan centers, and, more significantly, it has been continuing. The 1970s seem to have emerged as the decade of the "rural renaissance," a period of centrifugal drift of population to more rural residences.

Once the trend was confirmed as a real and relatively widespread phenomenon, a host of secondary concerns gained prominence. Who are these migrants; why are they moving and why at this particular time; what impact are they having or likely to have on rural areas; will they stay; will the trend continue; what factors will mitigate it? Needless to say, the questions which were raised exceeded by a wide margin the ability to provide answers. Data on counties and other political units that were gaining or losing population, and sparse data on the characteristics of migrants, provided some partial answers, but more importantly, numerous clues and insights which provided researchers with a good set of starting hypotheses.

The data void, however, was often filled by speculative hunches, in-depth media coverage of individuals moving from cities to rural areas, and by a spate of location-specific surveys of recent migrants —all of which provided a confusing characterization of the trend. The limited surveys of migrants, while essentially supporting the inferences made from secondary data about reasons for moving, could provide little more than snapshots of particular situations. And much of what had been written about the trend based on carefully chosen case studies shaped a unique view of the migration process which was able to capture the attention and imagination of readers, but which could not be easily verified. There was, thus, a need for data which could take a broad look at the trend and address some of the prevailing notions about it, correcting misperceptions where necessary and reaffirming existing conceptions where warranted.

The regional survey from which the present data were obtained was designed to provide insights into many of the neglected aspects of the new migration, and a firmer base on which to make generalizations.

The purpose of this chapter is to look at motivations, attitudes, and residential and socioeconomic changes experienced by a sample of metro-to-nonmetro migrants in the North Central Region. It will provide a data base for examining several of the questions which are frequently raised about the new migration and in the process reduce some of the misunderstandings which currently exist. The five questions addressed are:

1) Are quality-of-life considerations important in the migration decisions of metropolitan to nonmetropolitan migrants?

2) Is the new migration a shift to truly "rural" residences?

3) Do newcomers represent a potentially disruptive force in the areas in which they settle?

4) To what extent are the new migrants motivated by a desire to return home?

5) What gains and losses do migrants experience as a result of moving from metropolitan to nonmetropolitan areas?

Study Design Overview

Since much of what is currently known of the turnaround phenomenon rests on ecological analysis, a survey of migrants was undertaken to provide insights into a variety of social-psychological and behavioral dimensions of the phenomenon which are simply not available from census sources. The overriding concern in the design of this study has been to gather the types of data for which surveys are particularly valuable.

To facilitate locating migrants over a broad area, the North Central Region, the geographical scope was narrowed by concentrating on the 75 nonmetropolitan North Central counties with net inmigration rates of 10 percent or higher between 1970 and 1975. Many of these counties are in Michigan, Missouri, and Wisconsin, but in general they are not homogeneous with respect to the factors assumed to be important to the new migration trend. They are diverse in terms of socioeconomic and demographic characteristics, and most are entirely rural and not adjacent to metropolitan areas. A map of target counties is presented in Figure 5.1.

To facilitate locating possible migrants, a phone-directory matching procedure was used which involved identifying all exchanges in the target counties. A systematic random sample of

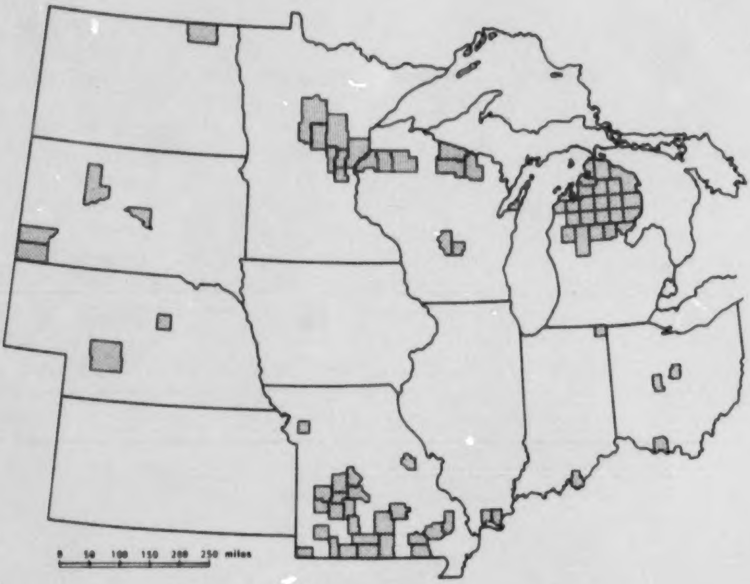


Fig. 5.1. High net inmigration survey counties of the North Central Region (N = 75)

households was then drawn from the most recent directories. These were then matched with 1970 directories, yielding two types of households—expected residents and expected migrants. Subsequent screening was used to identify three respondent types: inmigrants (1970-1977) originating in metropolitan counties; inmigrants (1970-1977) from nonmetropolitan counties; and continuous (since 1970) residents. Disproportionately stratified samples were drawn and telephone interviews were conducted with 501 inmigrant households from metropolitan counties (SMSAs), 208 from nonmetropolitan areas, and 425 residents of the sample areas. Heads of households were the primary target group, although spouses were interviewed after several unsuccessful attempts at contacting the head. Temporary and seasonal residents were excluded. All interviews were conducted by personnel of the Survey Research Laboratory of the University of Illinois.

Understandings and Misunderstandings: The Evidence

1) *Are quality-of-life considerations important in the decisions of metropolitan to nonmetropolitan migrants?*

A consensus seems to be emerging that the new migration is characterized by the importance of motivations other than employment. For different segments of the population this translates into a variety of reasons for moving: going "back to the land," getting away from big-city life, changing life-styles, moving for place-specific reasons, and family ties, to suggest a few. This perspective is, of course, contrary to the prevailing view in migration research that economic, and particularly employment-related motivations, underlie most long-distance moves and destination selections [6, 11].

The evidence that quality-of-life considerations may be assuming a larger role in migration decisions is being interpreted in the context of structural changes occurring in American society. Rising affluence, higher standards of living, and availability of retirement income are felt to be producing a "floating population" which can settle where it pleases [9]. These arguments imply that the stream may be distinctive in some respects, such as age. In addition, it is assumed, but not established, that the motivations of metropolitan-to-nonmetropolitan migrants are distinctive; that is, they do not fit the dominant labor force model of migration.

We have attempted to address the questions of migrants' motivations and their uniqueness simultaneously. To establish motivations, we developed a six-category scheme for classifying reasons for leaving the former area of residence. In the survey all migrants were asked to give their reason(s) for leaving their former place of residence, and then to identify the main reason. These *main reasons* were then coded into the following categories:

1) *Employment Related*: includes all job transfers, moves for reasons of unemployment or underemployment, searches for new, better and different employment and higher wages.

2) *Ties to Area of Destination*: includes responses indicating a desire to return to an area of birth or of former residence, to an area with which the respondent was familiar, or in which he/she had friends or relatives, would be close to friends or family, or had property.

3) *Environmental "Push" Factors*: includes all responses citing negative attributes of the previous residence, ranging from the quite general ("get away from the city," or, in the case of some of the nonmetro migrants, "get out of the small town"), to the very specific.

4) *Environmental "Pull" Factors*: responses were coded as "pull" if they specified some attractive feature of the place of destination the important consideration being that the area of destination was the referrent.

5) *Retirement*

6) *Other Reasons*: includes infrequently mentioned miscellaneous reasons, such as health, divorce, marriage, schooling, as well as those who "just wanted to move."

To examine whether the results of the analysis of reasons are misleading because of the composition of the samples, separate analyses were conducted for the portions of the samples that are of labor-force age. If the new migration is being generated by motivations that are different from those which characterized long-distance moves in the past [8, 10], the migrants from metropolitan areas should exhibit a response pattern at variance with findings from prior migration research, even after restricting the comparisons to samples similar to those which have shaped the prevailing view of migration stimuli.

To establish whether there is any uniqueness to the metropolitan-origin migrants' response patterns, their reasons for moving were compared with those of migrants who have recently moved into the same counties from other nonmetropolitan areas. This is not the only, or perhaps best, test of uniqueness, but it does provide a referent for making comparisons. This has been lacking in most of the previous research on the trend. The implicit hypothesis is that if the new migration is a function of quality-of-life considerations, reasons pertaining to conditions in metropolitan areas and amenities in nonmetropolitan areas should be cited more frequently than employment reasons by the metropolitan-to-nonmetropolitan migrants, and more frequently by them than the nonmetropolitan-to-nonmetropolitan migrants.

Data addressing this hypothesis are presented in Figure 5.2. Looking first at the data for the total metropolitan-to-nonmetropolitan migrant sample, we see that for 76 percent of the households, reasons other than employment were cited for leaving the former urban residence (upper portion of Figure 5.2). The most frequently cited type of reason, "environmental push," is the single most important motivation underlying the decision to leave the metro residence. If we combine the environmental push and pull reasons and let them represent environmental or quality-of-life factors, we see that for 40 percent of the households these were the most important reasons for migration, much more important than employment-related reasons (24 percent). In clear contrast, data for inmigrants from nonmetropolitan counties show a substantial proportion (46 percent) reporting employment-related reasons for leaving their prior residence (lower portion of Figure 5.2). For this sample, environmental push and environmental pull factors account for only 19 percent of the migration decisions. The data show in addition that, for the metropolitan-nonmetropolitan migrant stream, retirement is an important reason for moving, accounting for 17 percent of the moves. It is a less important reason for the nonmetropolitan-origin migrants, accounting for 10 percent of all moves.

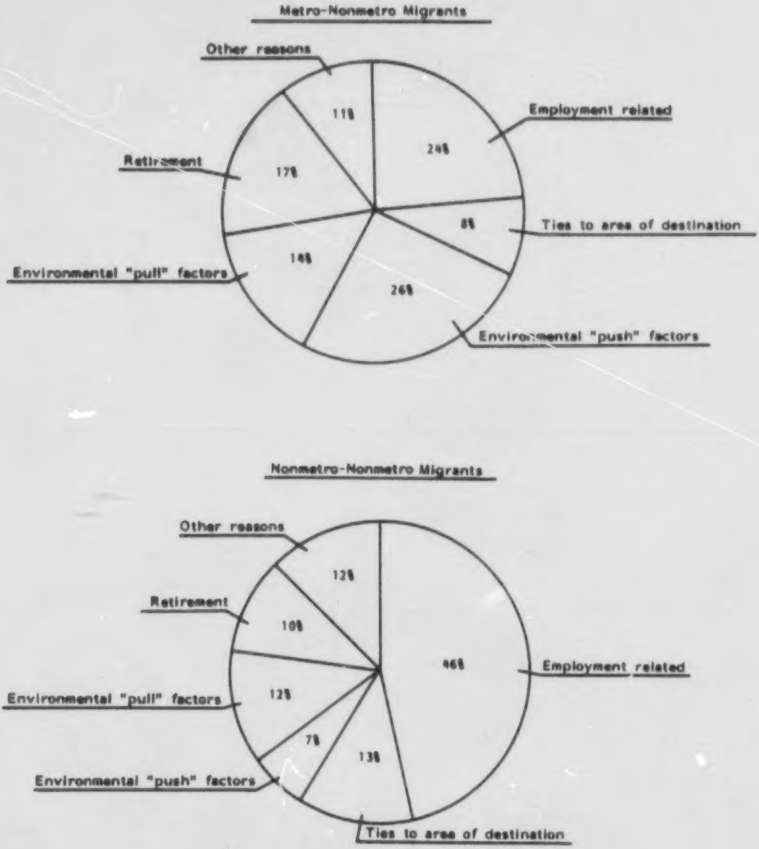
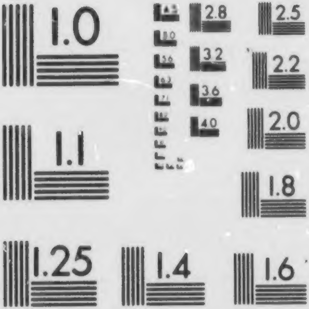


Fig. 5.2. Reason for leaving previous residence, by migrant type for total samples

In comparison with past migration research, the reason structure of the metropolitan-nonmetropolitan stream is quite different, and clearly unlike that for the nonmetropolitan-nonmetropolitan stream, for which the data are much more consistent with the prevailing labor force model of migration. There is, thus, some basis for concluding that the metropolitan-nonmetropolitan stream is unique, at least when compared with nonmetropolitan-origin inmigrants. Before we can dismiss the utility of labor force explanations in understanding the turnaround, however, there is a need to restrict the analysis to that segment of the sample to which labor force explanations are meant to apply, the population of labor force age.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(ANSI and ISO TEST CHART No. 2)

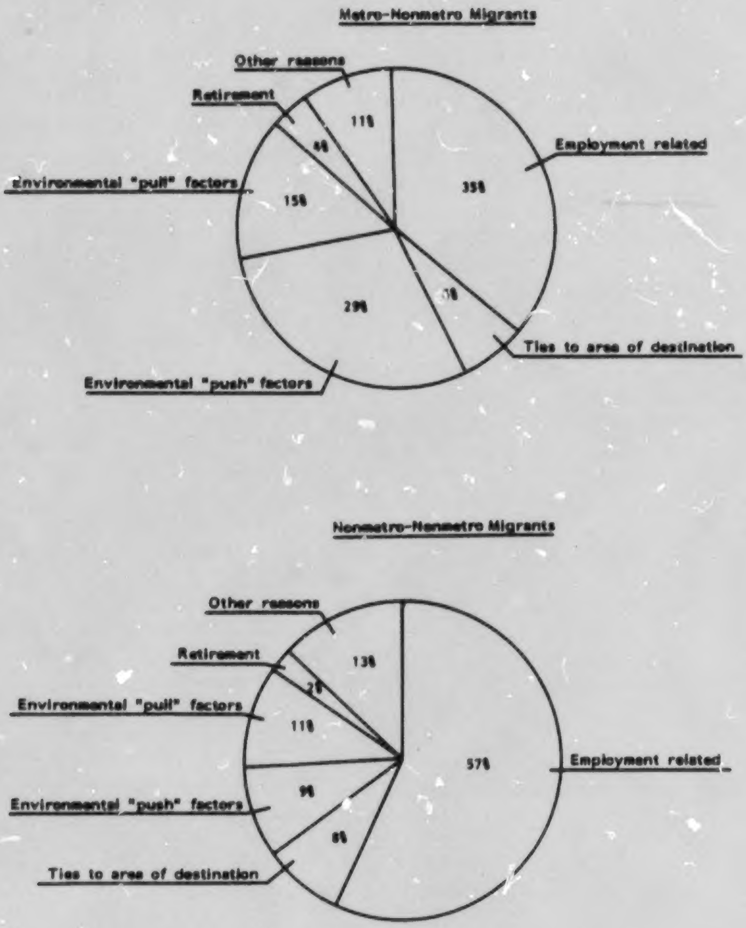

Fig. 5.3. Reason for leaving previous residence, by migrant type for households with head aged 18-59

Restricting the analysis to respondents in households with heads in the 18-59 age group does alter the distribution of reasons (upper portion of Figure 5.3). Metropolitan-to-nonmetropolitan migrants in these households cite employment-related reasons (35 percent) more often than any other single type of reason. Push factors, also relatively important, were cited by 29 percent of the households, and if the environmental push and environmental pull factors are combined as has been done previously, we still have 44 percent of the labor force age metropolitan-origin households moving essentially for environmental or quality-of-life reasons. Thus, the major underlying motivations of households migrating from metropolitan areas do not change dramatically when labor-force age is specified. The nonmetropolitan migrants, moreover, continue to stand in clear contrast to the metropolitan-origin migrants (lower portion of Figure 5.3). As was observed for the total sample, employment reasons predominate (57 percent) among metropolitan migrants.

The data point strongly in the direction of a different motivational base underlying the new migration trend. The present findings for the metropolitan-nonmetropolitan migrants are in sharp contrast to the prevailing research on reasons for migrating and to the findings reported for the nonmetropolitan-origin movers in the survey. The fact that a similar conclusion was reached even after limiting the analysis to that portion of the sample for which labor force models of migration are assumed to be most applicable, suggests that at least for the metropolitan-origin portion of the inmigrant growth in rural areas, labor mobility models have limited utility. They do, however, seem to explain a large portion of the inmigration of migrants from other nonmetropolitan areas.

To those who have been researching and speculating on the current population turnaround phenomenon, these findings are perhaps more documentary than surprising. In recent years there has been a growing awareness among researchers that population turnaround in nonmetropolitan areas involves more than simply industrial decentralization, super-suburbanization or retirement migration. Of course, the underlying catalyst for recent trends may be the enhanced capacity of rural areas for employing new residents. But, the data suggest rather strongly that migrants, especially those leaving large metropolitan areas, tend to view their behavior in the context of the relative merits of metropolitan versus nonmetropolitan living. To answer the question posed initially, quality-of-life considerations *are* important in the decisions of metropolitan-nonmetropolitan migrants, for both the total sample and for a more restricted sample of households with heads of labor force age.

2) *Is the new migration a shift to truly "rural" residences?*

This frequently raised question embodies several distinct queries about the origins and destinations of metropolitan-to-nonmetropolitan migrants: how far are they actually moving, what types of places are they leaving, and what kinds of residences are they moving to? Many of these questions are voiced by skeptics who argue that while nonmetropolitan counties may be growing faster than metropolitan counties, various types of residential shift could be involved, and that many of the moves may be of relatively short distance. It is pointed out, for example, that some of the residential shifts may be to only slightly smaller places or to adjacent counties.

Two of the more popular conceptions have been that the migrant stream consists of individuals moving from large cities to small places and to the countryside and that it reflects a widespread desire among migrants to get "back to the land" in the forms of farm and country living. Case studies of families who have traded "apartments for farms" and open country living have provided the essential documentation for this view. Obviously, some recent migrants are engaged in farming, living on farms if not farming, and living in the countryside. There is, however, scant knowledge of whether farm and country living are an isolated or widespread phenomenon among recent migrants.

The present survey has provided considerable information on migrants' origins and destinations and on the types of residences which they have selected in the destination areas. It has been documented, first of all, that with respect to their origins the metropolitan-nonmetropolitan migrants are not local movers simply moving in a more rural direction. Relatively few (8 percent) are moving into adjacent counties. They differ in that respect from the nonmetropolitan-origin migrants in the survey, a good portion (47 percent) of whom have moved into adjacent counties. A majority of *both* samples are, however, intrastate migrants.

The 1970 populations of the places migrants moved from and settled in were examined and the distributions on this measure show that just over a third (34 percent) of the metropolitan-origin migrants came from large cities of a quarter million or more, and all together 62 percent came from cities over 50,000 (see Figure 5.4). Over all, a little more than 10 percent originated in small towns and villages (under 5,000) in metropolitan counties. We thus see that there is considerable variability in the types of places metropolitan migrants left. They were predominantly from cities because we selected migrants for interviews who came from metropolitan counties, but a minority came from what are apparently suburban places.

Looking at the sizes of places of destination, almost half (47 percent) are currently living in or near small villages and more than 80 percent are in or near places of 5,000 population or less. The analysis shows that metropolitan-origin migrants decidedly prefer small places. There is no evidence, however, that they have chosen to resettle in those places which one would assume to be most similar to the types of places they left, that is, in larger towns. In terms of current places of residence, then, the metropolitan-nonmetropolitan migrants can be described as living in or near villages and small towns.

An attempt was made to pinpoint further the types of residences in which metropolitan migrants were settling—whether in towns, open country areas, or on farms. Responses on a series of questions pertaining to acreage and farm sales provided the opportunity to gain some insight into the general question of whether metropolitan migrants are indeed "returning to the land," to an agricultural way of life. This is a theme which appears quite frequently in discussions of the new migration.

The data provide additional evidence that the metropolitan-

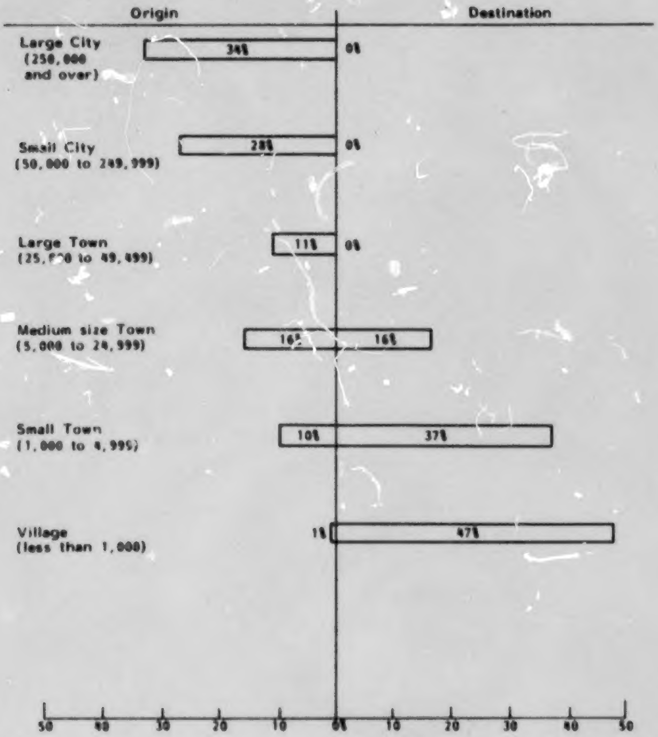

Fig. 5.4 Distribution of metropolitan-origin migrants by size of place in origin and destination locations

origin migrants are truly shifting to the more rural types of residences. About two-thirds, 329 of the 510 metropolitan migrant households, have chosen to live outside the corporate limits of any village or town in the growth counties under study (see Figure 5.5). In this respect they are more rural than either the area residents in the survey—56 percent of whom are living outside of towns—or the nonmetropolitan migrants, 54 percent. Evidence of this sort tends to underscore the "back to the land" notion as a possible explanatory theme. Most of these country dwellers are rural in only a technical sense, however, as will soon be demonstrated.

Metropolitan migrants are moving for amenity reasons to a greater extent than has been the case in recent decades, and as a result it is tempting to characterize those amenities in terms of ties to the land as well as open space and outdoor amenities. Newspaper accounts of exurbanites establishing small farms serve to highlight the "back to the land" theme as well. The data, however, provide little in the way of documentation for these conceptions. Only 29 percent of those metropolitan origin migrants who live in the open country are actually living on farms, a fact which alone forces one to conclude that the "back to the land" theme, at least in a literal sense, is of little importance for most urban migrant households (see Figure 5.5). They can be described as favoring the countryside, but not the farm. Furthermore, almost 60 percent of the open country households live within five miles or less of the center of the nearest town and 50 percent within 10 minutes driving time of their place of employment. The bulk of the open country residents are thus clustered near villages and towns.

With regard to the "back to the land" aspect of the new migration, the data show in general that land ownership and agricultural use of that land are quite important for some metropolitan migrants, but for only a few. For the majority, living in the country seems to have an appeal for residential purposes, but being near a town for jobs, shopping, and services is probably more important than ties to the land, as such. For those who do live on farms only about a third reported some products for sale. The latter category in-

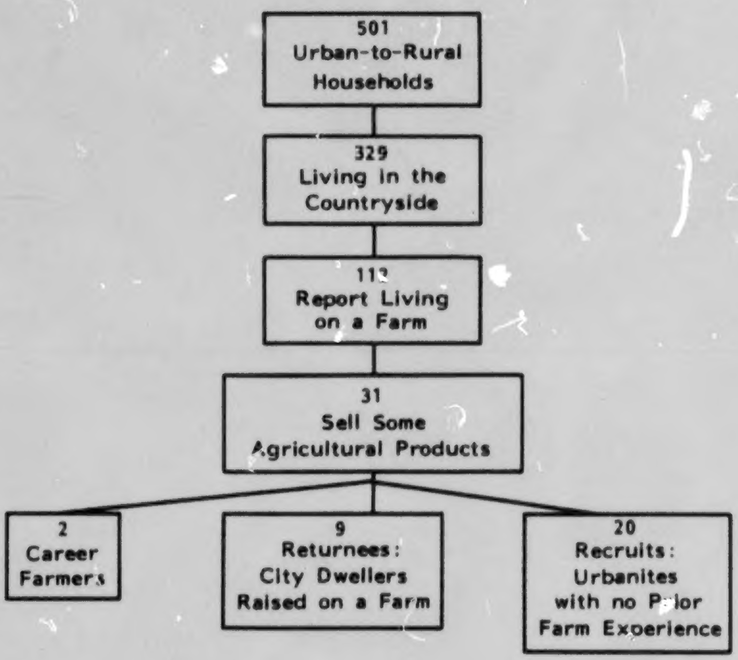
501
Urban-to-Rural
Households
329
Living in the
Countryside
112
Report Living
on a Farm
31
Sell Some
Agricultural Products
2
Career
Farmers
9
Returnees:
City Dwellers
Raised on a Farm
20
Recruits:
Urbanites
with no Prior
Farm Experience

Fig. 5.5. Involvement in agriculture among metropolitan origin migrants

volved only 31 migrants (6 percent) of the original sample and too small a fraction to permit much in the way of generalization. The largest portion of these, 20 of the 31, are not truly returning to the land for they have had no prior experience in farming. They are "recruits" to farming, many with small holdings.

The nonagricultural aspects of country living are clearly the major attractions for metropolitan-nonmetropolitan migrants in the region. The appeal of the land, and use of it for agricultural production, can be described as a minor subtheme within the larger theme of life in the country or small town which attracts migrants from large urban areas. Nevertheless, even a partial offsetting of the very substantial movement out of agriculture which has been going on for decades should not just be ignored. Going back to the land may not appeal to many in urban areas, but the migration of even a few can have substantial consequences for thinly populated rural areas.

3) *Do newcomers represent a potentially disruptive force in the areas in which they settle?*

The influx of newcomers into rural areas is being viewed as a turnaround in more than numbers alone, representing on the one hand an opportunity for redressing the problems associated with past outmigration and, on the other hand, a threat to the lifestyles and institutions in rural areas. This benefit-burden contrast is currently being given considerable media and research attention, but as yet there has been little hard evidence on the various problems involved.

One of the basic assumptions on the purely demographic aspect of the impact issue is that the composition of the metropolitan-nonmetropolitan stream is different from the composition of the population in the nonmetropolitan destination areas. Recent secondary data [14], as well as our own data, demonstrate that migrants going from metropolitan to nonmetropolitan areas are younger, better educated, and likely to have higher occupational status than rural residents. These differences between urban migrants and rural residents, plus the basic fact of migrants' origins in the "big city," have fueled speculation that migrants and residents will not see eye-to-eye on local issues. Do migrants exhibit, for instance, a more "progressive" orientation [7], that is, a greater willingness to change various aspects of these areas? Or are migrants more likely to be conservative toward improvements in the new area [4] and more inclined to support measures that would protect those aspects of rural living which attracted them to the area?

The general question is, what effect, if any, does the new migration have on the high-growth rural areas where the migrants have settled? The fact that most of the rural counties with which we are concerned have been losing population until recently, and are now gaining, would in itself suggest that some changes might follow from the growth in numbers. Here the question is posed rather broadly: What difference does it make that new people, who are somewhat different from local residents, are moving in? Many examples could be cited (for an overview see Schwarzweller [12]) that stress the problems and benefits associated with growth and, in general, the consequences of the new migration to rural areas. We are able to take a much broader look at impact questions in that our samples are drawn from many different locations over an entire region. On at least a few impact questions, we can determine, at a regional level, what some of the consequences of growth are for the receiving areas.

The present discussion is being restricted to three areas which have been separately pointed out as issues over which controversies may arise. There is, first, the growth issue. In relation to residents, how do migrants view the future growth of their areas? Second, how do the residents' and newcomers' attitudes differ with respect to the type or nature of growth or development they would favor? And, third, do migrants and residents demonstrate differences in attitudes toward increasing taxes to provide better services or to improve existing ones? In responding to the preceding questions we will be looking at the inmigrants from other rural areas as well, for they too are presumably different from both the residents and the urban-origin migrants.

Views on population growth

Our data show that migrants as well as residents are highly aware of the population growth taking place and that they generally view it as a good thing (70 percent and over), with only minor differences among the samples of migrants and residents. The great majority of all respondents are clearly pro-growth. Residents of the nonmetropolitan counties in the survey are somewhat less likely to perceive it as bad rather than just being indifferent to it, but there is little basis for arguing that longer-term residents resent newcomers moving into "their" communities. On the contrary there seems to be an extraordinarily high consensus that population growth is good. In general, then, there is widespread awareness of population growth but very little concern about it.

Views on the nature of growth and development

Judging by the responses to questions about the desirability of official actions to develop their communities, *all* respondents show a strong consensus in favor of further growth and development, and there is little evidence that they disagree about the general means of promoting development. Migrants and residents were specifically asked to respond "yes" or "no" to the questions: "Do you think elected public officials of your community should try to... A) Keep factories out of the area; B) Attract tourists and promote recreation; C) Develop the business district of the community; and D) Attract new residents to the area?

With reference to factories, presumably as a means for providing more jobs and further growth, we note that metropolitan-origin migrants are slightly more opposed to new factories in the area than the nonmetropolitan-origin migrants or residents [21 percent versus 16 percent for nonmetropolitan-origin migrants and 6 percent opposition among residents see Figure 5.6]. This may reflect some desire among the metropolitan-origin migrants to preserve the rural character of the environment they have chosen, but these data can hardly be interpreted to reflect a conservationist stance. High proportions of both residents and migrants are in favor of tourism and recreation as a means of economic growth. Many of the metropolitan-origin migrants had vacation experience in the area in past years, and the prominence of a quest for amenities in making the move would lead one to expect them to have a pro-tourism stance. Nonmetropolitan-origin movers, however, who did not report such vacation experience, are even more solidly in favor of tourism and recreation development than those from metropolitan areas. Little more can be said about the third alternative, development of the community business district. Responses on this question are more or less parallel to the first two, essentially eliciting "yes" responses from migrants and residents alike.

Finally, the somewhat less direct development alternative, attracting new residents, also got a "yes" response from most respondents, but proportions favorable to this type of growth are only about 75 percent as against 80-90 percent for the others, suggesting perhaps that there are open questions about the kinds of people who might come in, where they would find jobs, and so on. Nevertheless, the majorities in favor of attracting new residents can only be interpreted as part of a substantial consensus favoring economic growth and development among the respondents.

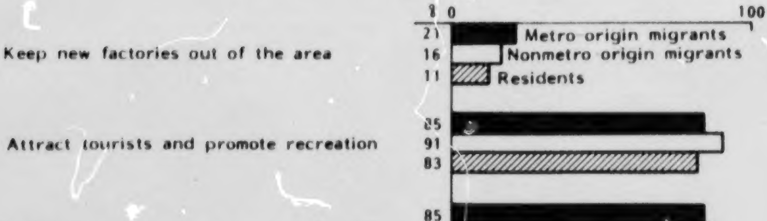

Fig. 5.6. Percentage of respondents, by group, who state that elected officials should try to....

This is not to say that a specific development proposal in a given community would not stimulate some debate or even controversy. It does suggest a generally favorable view toward the growth that has taken place, plus a pro-development stance with reference to the future. And it further suggests that any more problematic impacts of growth might only show up in second or third order ramifications of the population increase, itself. Or, alternatively, if what is now called the "new" migration continues over time, it may be that continued increase in numbers will be viewed with a more jaundiced eye at some future point. At present, however, there seems to be a consensus that growth is good in the rapidly growing nonmetropolitan counties of the North Central Region.

Views on local taxes

There is potential for a shift in service demands when people of different backgrounds, having experienced different lifestyles, converge in a common location and establish homes. Looking back over a generation or more, there is no question that desired goods and services, which were formerly difficult to obtain in remote locations, are now more readily obtainable. Modern transportation, communication, and service delivery systems have reduced historic differences between city and countryside. Nevertheless, when formerly declining areas first experience an influx of newcomers who are not like the local people, one would expect some change in demand for an array of services, and local residents may not always agree with the newcomers, especially those from big cities, on whether the services should be provided and on how they should be funded.

Shifts in demand for community services imply at least a reallocation of local tax resources and may well imply an increase in at least some local taxes. In order to explore that type of question, each respondent was asked to agree or disagree with the proposition that "local taxes should be increased to..." make possible a variety of specific community improvements. In the actual interview the respondent was asked to "agree strongly," "agree," "disagree," or "disagree strongly" but only the proportions of each sample showing any degree of tolerance for tax increases have been presented, in order to simplify the description of results.

The first point worthy of mention with respect to the data is that in most cases only a minority of the respondents in any of the samples would favor a tax increase, regardless of the purpose of the increase (see Figure 5.7). A slight majority of the sample favorable to an increase occurs only for the nonmetropolitan-origin migrants, and only for two of the six purposes: medical facilities (53 percent), and area roads (55 percent). Most respondents would prefer to get along without tax increases, as one might expect, since tax decreases rather than increases have captured public attention at this point in time. Secondly, however, the most striking difference found was that nonmetropolitan-origin migrants, generally, tended to be more

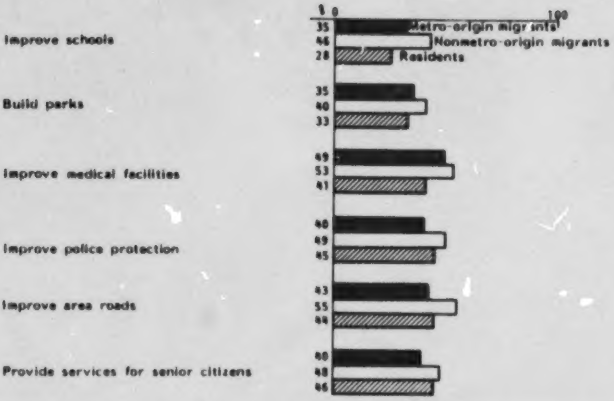

Fig. 5.7. Percentage of respondents, by group, who agree that local taxes should be increased to....

favorable toward improving any of the services listed than ei[illegible] the metropolitan-origin migrants or longer-term residents. A [illegible]grant impact, then, might occur in the form of nonmetropolitan-origin migrants demanding more and better services, with both metropolitan-origin migrants and local residents showing more resistance to change. The conventional wisdom about rural-urban differernces would suggest that metropolitan-origin migrants might be least satisfied with things as they are, but that is not reflected in data analyzed here.

Other data, which we have not presented in this paper, show that metropolitan-origin and nonmetropolitan-origin migrants tend to differ in age, education, and other respects, and that they have moved to these high-growth areas for somewhat different reasons (see Question 1). It may be these distinguishing characteristics of nonmetropolitan-origin migrants which set them apart from the other groups and will have to be better understood in order to assess community impact in particular spheres. Generally speaking, however, our efforts to compare the two migrant groups and residents at the *same* age, education, and income levels did *not* alter the basic pattern. The nonmetropolitan-origin migrants were more favorable to tax increases for improvement of local services than either metropolitan-origin migrants or residents at the same level of age, income, or education.

The fact that our data show migrants from urban areas differing little from long-term residents in their perspectives on growth and development, while migrants from other nonmetropolitan areas are more likely to have different expectations, was not anticipated and thus deserves to be underscored, even if present data do not permit us to explore fully the reasons for the contrast. One can speculate. It could be argued that nonmetropolitan areas have changed over the years, have become relatively more attractive than the cities [2], and thus former urbanites should not be expected to find many of their needs unmet in these areas. Other data which were obtained on migrants' adjustment difficulties and satisfaction with the new residence are consistent with responses to questions on taxation for the purpose of improving their new communities. About two-thirds (67 percent) of the urban migrants expressed no adjustment difficulties when they moved, and another 12 percent felt that adjustments were minor. Thus, for a very large portion of the metropolitan-origin migrants, the transition from a highly urbanized area to a rural area involved few, if any, adjustment difficulties. And on a global measure of satisfaction with the current residence we found that in general more than 90 percent were satisfied, hardly the basis for discontent or advocacy for change.

It is possible that one should not expect former urbanites to be advocates of change, at odds with long-term residents, since they tended to select their new nonmetropolitan residences for what they perceived to be the positive qualities of rural life. In short, metropolitan-origin migrants may have anticipated what rural life would be like and have based their migration decisions on this understanding. Nonmetropolitan-origin migrants, who tended to cite jobs as important reasons for moving, are apparently more willing to accept higher taxes and public investment as the means to development, and may thus be more likely to function as advocates of change in a local situation than former urbanites. The foregoing are merely speculations, however, and we must repeat that the regional data provide little evidence to suggest that the new migration is currently having a disruptive impact in most localities.

4) *To what extent are the new migrants motivated by desires to return home?*

A theme which has received considerable attention in discussions of the new migration is the general notion of "going back home," returning, rediscovering one's "roots." There has been some documentation of a fairly extensive role for return migration in the metropolitan-to-nonmetropolitan stream [3]. In our research we have attempted to focus special attention on those metropolitan-origin migrants who have literally moved back to an area where they once lived. And to get further insight into the importance of moving back to an area they had once resided in, we looked at the proportion giving "return" as their reason for choosing a destination area. The data on reasons for destination selection which were obtained from all migrants were highly suggestive of the possible importance of returning home as an explanatory factor for metropolitan-to-nonmetropolitan migration in the region. A variety of "ties to the area" was a quite common reason among these migrants for relocating where they did. Close to half (45 percent) described their decisions in terms of ties to the destination area, but it must be emphasized that they cited a variety of ties, not necessarily the tie of previous residence. Only 30 percent of those who said they chose their particular residence because they had pre-existing ties there did so because they had wanted to return to a place where they had lived. This amounts to no more than 13 percent of all urban migrants, hardly an overwhelming sentiment to return home.

It is possible, however, that the desire to return home was simply not expressed in the interview. Although respondents might cite any number of reasons for settling where they have, they may have also, at the same time, moved to a former area or place of residence. For example, they may have returned to the general geographical area of the county in which they had once resided, thus somewhat obscuring the "home" theme, but none the less it is a form of return. In the survey we have been able to document the relative importance of these types of return migrants to the stream. Using a broad referent, all migrants were first asked if they or their spouse had lived in the "area" before. In more than two-thirds (69 percent) of the migrant households, neither respondent nor spouse had. In a small proportion (10 percent) both had lived there before. Using this broad "area" referent, we thus see that slightly less than a third (31 percent) of the metropolitan-origin households could be referred to as "return migrants," in that either respondent or spouse had lived in the area before. Although some migrants are "returning home" by this broad criterion, it is clear that the migrant stream as a whole can't easily be characterized as persons moving back to areas where they once lived.

Using a more specific geographical referent, the county, to define a return migrant, the proportion of returnees among household heads in the study is reduced to roughly a fourth of the metropolitan-origin migrants. An even smaller proportion of the stream is made up of migrants moving back to counties in which they were born, overall about one in six (16 percent). Contrary to popular perceptions the metropolitan-nonmetropolitan stream is not made up of large numbers of people moving to counties where they were born or once lived, or even to "areas" where they had lived.

Additional background information on the migrants provides some interesting insights into the return phenomenon. First, a sizeable proportion (28 percent) of the migrants who are returning to a county where they had once lived had left not more than six or seven years before. And this ties in with a second point, that the migrants are not disproportionately the elderly, who migrated from these areas as youth. If anything, the return migrants may be disproportionately younger. The notion that the migrant stream is composed largely of elderly movers (60 and over) returning to birth places or areas of former residence is not a very accurate characterization. Return migrants—to either birthplace or area of former residence—make up no more than a fourth to a third of the total migrant sample, as has been shown, depending on how one defines "return." And the elderly are no different from the sample as a whole, with less than a fourth returning to counties in which they had lived previously. The elderly are much more likely than the younger migrants to have children in the places they move to, and that may be a different definition of "going home," but still less than one in five elderly urban migrants has children in the destination area. In fact, as a result of the move, the elderly urban migrants over all are more likely to end up farther from their families than they were before the move.

It is clear then that in general the urban migrants, elderly and younger migrants alike, are moving to new areas, not "home." If migrants are not returning home, even in a loose sense, why are they settling where they are? One thing is clear, and that is that metropolitan-origin migrants are not moving to unfamiliar or randomly chosen areas. Three out of four had pre-existing ties in the destination areas and these were primarily ties of friendship developed over the years from vacationing or visiting in the area, owning property in the area, or simply having known someone who was residing there. These are the types of ties and contacts with destination areas which prompted migrants to respond that ties in the destination area shaped their relocation decisions.

It is only in a more symbolic sense that "going back" to something can be meaningfully invoked as a factor underlying the new migration in a general sense. The few urban migrant respondents who have chosen to go into farming, in a sense going "back to the land," are of interest in this context, but they represent a very small fraction of the total stream.

More broadly, the often-mentioned appeals of a "simpler way of life," lower living costs in an era of increasing costs, and of the rural area as a good place to raise children, contain romantic or perhaps better, nostalgic overtones of a desire to return to something which many migrants may only have experienced vicariously, perhaps through reading or television. Prior residence and social ties do serve to account for the choice of one destination rather than another, but more research will be needed to fit the symbolic "going back" theme into an explanation of the new migration as such.

5) *What gains and losses do metropolitan-origin migrants experience as a result of moving to a nonmetropolitan area?*

It is often assumed that substantial "costs"—ranging from lower income to less prestigious occupations—are experienced by migrants in the metropolitan-to-nonmetropolitan stream. The belief, in general, is that socioeconomic opportunities are being "traded off" for rural amenities, or, more broadly, "quality-of-life" gains.

An attempt has been made to address the topic of gains and losses by looking broadly at some of the consequences of migration for the individuals and households involved. The range of possible gains and losses which might be considered is almost infinite, given that the focus is on households which have substantially changed the settings in which day-to-day life is carried out. The analysis is restricted to only a few spheres which are assumed to be most important in understanding the socioeconomic consequences asssociated with the new migration. The discussion has been cast in gain versus loss terms around questions of change in employment status, job prestige, income, and quality of life.

Employment status changes

What effect has the move had in terms of shifts into or out of the labor market? Figure 5.8 permits a comparison of metropolitan-origin migrants' employment status before moving, and at the time of the interview in 1977. It shows, in general, a fairly marked disjuncture in employment status attendant on changing residences. The largest net changes, for both the heads of households and their spouses, are decreases in the proportions employed full or part-time and increases in the proportions who are retired. This is not surprising since it was noted earlier that metropolitan-origin migrants tend to be older and for a substantial number of them "retirement" was cited as a reason for making the move. Among metropolitan-origin heads of households, the proportion who are retired rises from 17 percent before the move to one-third in 1977. For spouses, the proportion retired slightly more than doubles, going from 6 to 14 percent.

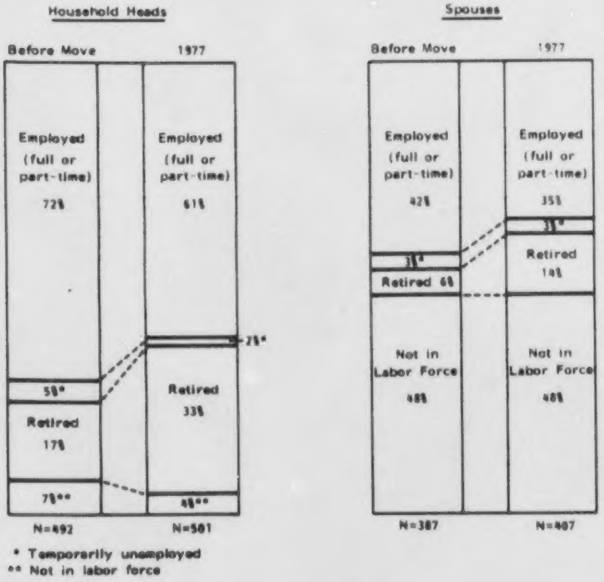

Fig. 5.8. Employment status of metropolitan-origin migrants before the move in 1977

In part, the trend toward rising proportions retired among both groups would be expected given the numbers and proportions of older persons in the sample and the passage of time. It is difficult to infer from these data exactly when retirement took place, whether at the time of the move, or later after a few years of involvement, possibly part-time, in the local labor market at the area of destination. This question will be examined more closely in Figure 5.9, which provides even more detailed information on changes in employment status at three points in time for male and female *respondents* who were in the labor force just before moving. About 70 percent of the females represented in the data on which Figure 5.9 is based are respondents who are married, and the remaining 30 percent are female heads of households.

The evidence shows that for males and females from metropolitan areas, retirement took place at the time of the move and is a major factor in explaining the declining proportions of respondents in the labor force (Figure 5.9). Though retirement is fairly common among metropolitan-origin females, it is also apparent that females tend to drop out of the labor force for other reasons and stay out. For example, there are 32 percent not employed and not looking for work just after the move, and this proportion drops only a few percentage points by 1977, to 28 percent.

The proportions employed full or part-time show a very clear pattern over time. From rather high initial levels, the proportion drops just after the move to rather low levels and then rises by 1977. This rise in proportions full or part-time employed is substantially because of the re-entry into employment of those who were temporarily unemployed just after moving. For instance, among metropolitan-origin males 94 percent were employed just before moving and 6 percent were temporarily unemployed. In the period just after the move, only 58 percent were employed and temporary unemployment rose to 17 percent with most of the rest having retired. By 1977, however, while the proportions for both the retired and those not looking for work remained almost the same as observed just after the move, temporary unemployment drops to 2 percent of the total, and full or part-time employment rises to 72 percent. This pattern is evident for both males and females from metropolitan areas. We must conclude that for a significant proportion of the metropolitan-origin inmigrants, there was a period of unemployment in the destination area before starting to work. Whether this is voluntary and quite temporary unemployment to permit "settling in" at the new location, or actually involves some difficulty in finding employment we simply don't know. It would seem, however, that those who want employment are successful in finding it since very few were temporarily unemployed at the time of the interview in 1977.

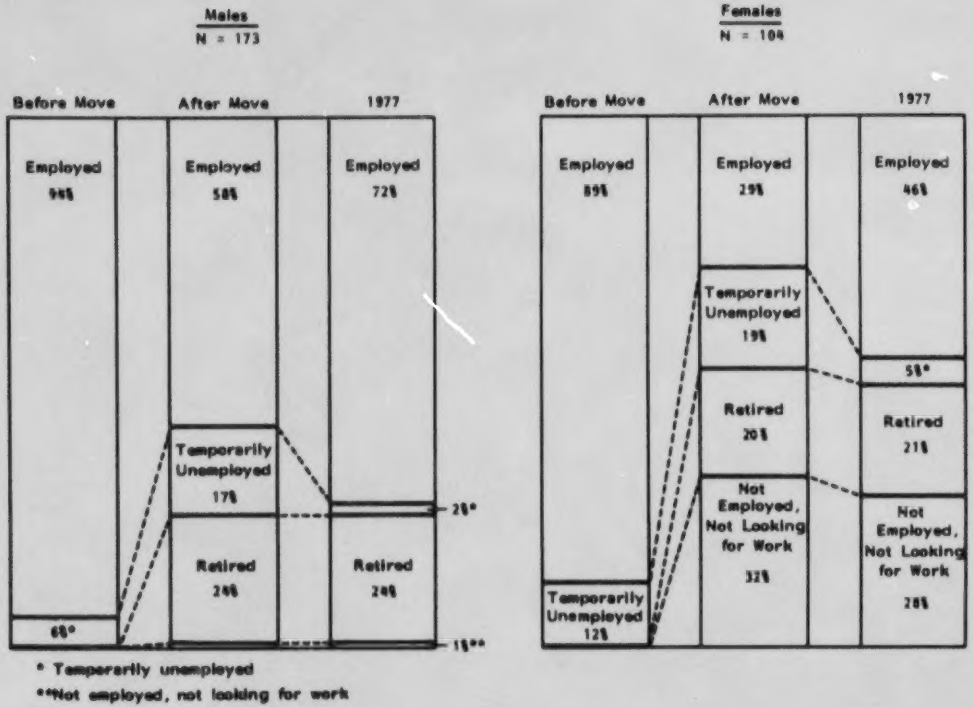

Fig. 5.9. Employment status before, just after the move, and in 1977, for metropolitan-origin migrants in the labor force before the move

Occupational prestige changes

In addition to changes in employment status, one can raise another type of gain-loss question: does migration result in upward mobility, in the sense of shifting people into higher status jobs than they had before the move, or does it result in downward mobility? That question is rather difficult to answer for the metropolitan-origin migrants as a whole because of the movement out of and back into the labor force. In addition, substantial numbers have retired and are thus outside the framework of a discussion of occupational prestige changes. Nevertheless, a comparison can be made of changes in job prestige for respondents, both male and female, who were employed before moving and in 1977 as well. Roughly half of the metropolitan-origin migrant sample is simply ignored for the present comparison as a result.

Figure 5.10 shows the percentage of metropolitan-origin migrants who have moved up in occupational prestige, moved down, or remained at the same level when their jobs before moving are compared with their 1977 jobs. Occupational prestige is here measured in terms of a widely used prestige ranking [5] which arrays the occupational labels used by the U. S. Bureau of the Census on a zero to 100 scale. A carpenter's helper, for example, is scored 07, while a bank teller is scored 51, and a physician is scored 93. Metropolitan-origin migrants show some evidence of a migration-related impact on their jobs. Less than half have stayed at the same level of occupational prestige, while the other half are evenly split between upward and downward movement (Figure 5.10). On the whole they would have to be described as holding their own in that the proportion moving up is only slightly larger than the proportion moving down (28 percent versus 27 percent). On the other hand, since more than one-fourth have been downwardly mobile, there is some support here for the commonly held view of the new migration as having an "anti-success" component [13].

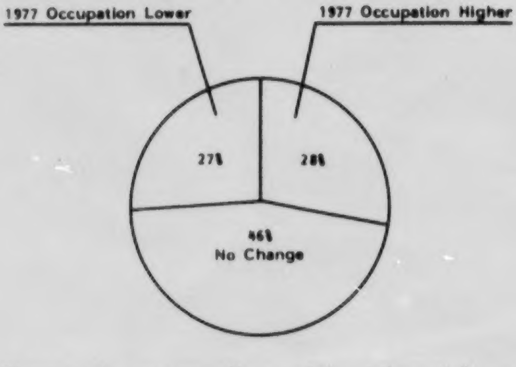

Fig. 5.10. Change in metropolitan-origin migrants' occupational prestige before moving compared with 1977

We will not go into detail on the nature of the changes in occupational prestige here. A more thorough examination of these data shows, however, that the changes in occupational prestige are not radical.

Income changes

The possible income "costs" of migration will be examined at two levels, which as a matter of convenience are being referred to as the "short run" and the "long run." The short-run comparison contrasts incomes in the year before the move with the year immediately after the move, and the long-run comparison simply compares premove income with 1976 income. Parenthetically, we might note that we did not obtain a precise income figure for the year just after the move. Instead a more/less/same question was asked in which migrants were asked to compare their income just after the move with their income in the year before the move. The result is that an actual income comparison cannot be made for three time points. In the comparisons which are made the referent is always total family income and household composition may well have changed in the time span involved here, a maximum of six years depending on time of move. Nevertheless, for our purposes the income data available permit certain interesting comparisons.

Short-run income changes: Having already described a migration-related disjuncture in employment status, it would be reasonable to expect a similar pattern for income changes in the short-run, that is, some reduced income in the year following the move. And that is, in fact, the case. Half of the metropolitan-origin migrants stated that their total household income was lower in the year following the move than it had been before moving (data not shown). Even if one eliminates the retirees from the income change comparison we still see some income reduction among the migrants. The proportion of the households with less income after the move drops from 50 percent for the entire sample to 45 percent, still a sizeable portion of the sample. As one might expect, however, the proportion of retiree households with less money after the move should be higher, and it is, with 61 percent earning less. Apart from those earning less, we see that among the non-retirees equal portions are earning "more" or the "same," slightly more than 27 percent. For the retirees, however, very few (3.9 percent) end up earning more than before the move. In general, there were move-related income disjunctures and, apart from questions related to retirement incomes, we would expect the disjuncture to be temporary, reflecting the apparently temporary employment disjuncture discussed above.

Long-Run Income Changes: Pre-move and current (1976) household incomes were compared separately for the retirees and nonretirees in an attempt to gain some insight into the pattern of temporary loss and recovery being described. Figure 5.11, which presents these income distributions, shows that among the retirees the income disjunctures which were seen above persist. Comparing pre-

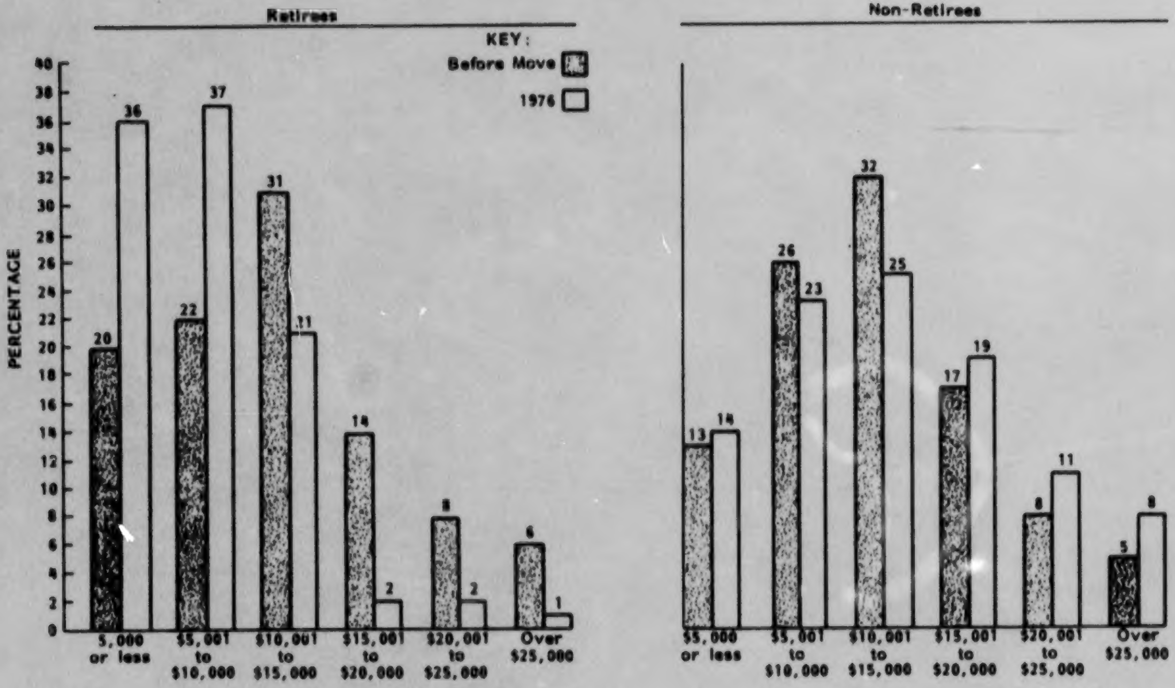

Fig. 5.11. Percentages of retirees and nonretirees in various household income categories, before move and in 1976

move and current distributions, there are substantial increases in the two lowest income categories and sizeable reductions in the four highest. It was shown previously that 61 percent of the retiree households experienced income reductions in the short run. It is quite unlikely that, given the limited opportunity retirees have for improving their incomes, much shifting upward would have occurred over time. One could thus argue that for this segment of the stream income losses have occurred with few gains in the long run. Of course, these losses are not necessarily attributable to residing in a rural area or to migration itself, since the pattern would more than likely have been similar regardless of whether the retirees moved or not.

This is not the case, however, with those who aren't retired. That pre-move income levels have at least been re-established by 1976 is fairly clearly documented by the data, although there has been no attempt to take into account the effects of inflation on the buying power of the incomes reported. There are larger proportions of metropolitan-origin migrants in the higher income categories ($15,000 and over) in 1976 than before the move, which suggests that they have experienced only a temporary loss as a result of moving (Figure 5.11). The lower income categories show either decreases or very slight changes. It could thus be argued that apart from the question of retirement and the income needs of retired persons, the metropolitan-origin migrants have experienced only a temporary income disjuncture as a result of moving.

Quality-of-life changes

The fourth and final focus for assessing the impact of migration involves the question of gains or losses in what are being referred to as "quality-of-life" measures. It is well known that quality of life is a highly subjective matter, and that which is valued by one person may be unimportant to another. The data which provide the basis for assessing quality of life changes stem from questions, frequently used in such assessments, which asked migrants whether they felt their new setting had more of a particular quality, the same amount, or less than the place from which they had moved.

The items used to characterize quality of life are shown in Figure 5.12. The proportion of metropolitan-origin migrants who report a gain in quality of life as a result of the move is high in absolute terms and consistent with the fact that metropolitan-origin migrants were prone to have given quality of life reasons for moving. As expected, migrants from metropolitan areas perceive their new rural setting as friendlier and safer, and they also feel that they have more privacy there. This is consistent with popular conceptions of the positive aspects of a rural environment. Metropolitan-origin migrants did not, on the average, move closer to other family members, and thus there is no net gain on this particular measure. The percentages closer "here" versus "there" are not greatly different. The next two items, on environment and weather, again show the metropolitan-origin migrants as reporting gains. They almost universally regard the environment of the new place as healthier, but in the case of weather, less than half report gains. The high proportion of "same here as there" responses is consistent with the predominantly intraregional character of the moves, i.e., there are not major differences in weather within the region.

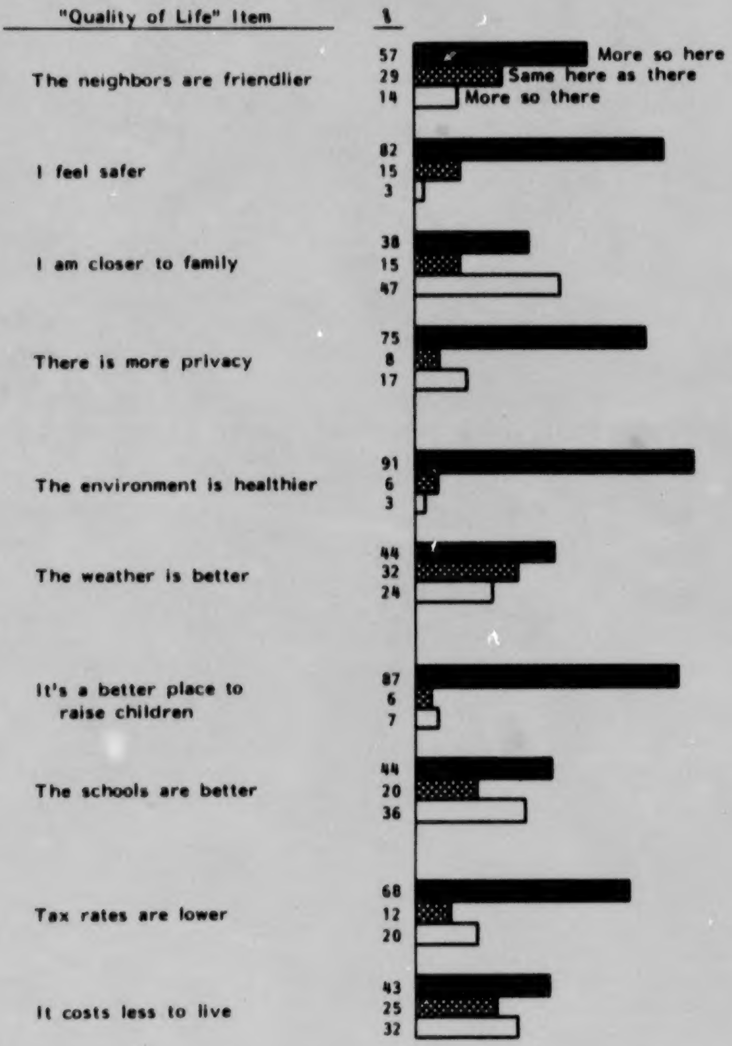

Fig. 5.12. Metropolitan-origin migrants' responses to "quality of life" question

On the two items which refer to quality of life with respect to child rearing and schools, metropolitan migrants perceive the new residence as being better than the old. Even for schools, which are not generally viewed as among the strongest assets of rural communities when compared with urban areas, a sizeable minority of the metropolitan-origin migrants (44 percent) stated that schools were better in the new, rural setting. Only 24 percent felt that schools were better in the former, metropolitan residence.

Finally, with regard to tax rates and living costs, the metropolitan-origin migrants, as expected, say that taxes are lower in the new setting than in the old. A similar, but less pronounced contrast, is apparent for perceived cost of living. Metropolitan migrants are thus apparently likely to perceive themselves as "gainers" on cost of living as well.

Summary

Many questions at the core of the turnaround phenomenon have centered on migrants motivations and on whether at the present time they represent a unique phenomenon. Data in the paper have carefully documented the importance of quality-of-life concerns in the decisions of the metropolitan-origin migrants who have moved into the fast-growing nonmetropolitan areas of the region. Their motivations are based largely on considerations other than employment, and in that respect their reason structure is quite different from that of past migrants and from another current migration stream—nonmetropolitan-nonmetropolitan movers—which has been used for comparative purposes.

Metropolitan-origin migrants have indeed located in more rural places, primarily these destinations in and around small towns and villages and often in open country areas. Thus, in most relevant ways the data have established that the new migration is truly a drift from large metropolitan centers to more rural places and areas. Although a majority of the metropolitan-origin migrants were living in the country, very few were going "back to the land," at least in the literal sense of taking up farming. The nonagricultural aspects of living in the country are the major attractions for metropolitan-origin migrants, not farming or even living on a farm. The desire to return to a more pastoral way of life may be a deeply-rooted dream among urbanites, as polls have shown, but it is not an explanation of the migration reversal. The metropolitan-origin migrants' pronounced quality-of-life orientation has led to the inevitable question of whether they are also likely to represent a disruptive force in the areas where they settle. Fears that they are opposed to further growth and development are allayed by the present data which show that there is a widespread consensus in favor of further growth and development, and a general agreement over the means for promoting development. So far, at least, there has been a positive outlook toward the population growth which has taken place in their areas, and they articulate a prodevelopment stance with regard to the future. Moreover, their orientations on the growth and development issues are fairly close to those of long-term residents of the same areas as well. Similarly, the metropolitan-origin migrants' perspectives on taxing, are not very different from those of the residents, but, as has been pointed out, the nonmetropolitan-origin migrants' perspectives generally stand out from those of both the metropolitan-origin migrants and residents. The data suggest that the nonmetropolitan-origin inmigrants rather than the metropolitan-origin migrants may be prime sources of change in these nonmetropolitan areas, and it is they who may represent a divisive force in these areas.

Examination of the general return migration theme has focused on those metropolitan-origin migrants who have literally moved back to a former area or county of residence. One cannot easily invoke the notion of "return" to explain why people are choosing particular destination areas. It is pretty clear that, in general, metropolitan-origin migrants—elderly and younger migrants alike—are moving to new areas, not returning to places in which they once lived. There is considerably more support for the case that social ties in the area of destination, as a by-product of recreational pursuits and various other contacts in these areas, figure prominently in understanding why one destination was chosen over another.

The examination of the gains and losses migrants experience has shown that while there were short-term disjunctures with respect to employment and income, in the long run migrants appear to have gained, or at least held their own. They migrated essentially for a variety of quality-of-life reasons, and they have perceived quality of life gains in their new residences. By the same token, they were presumably less likely to have tried to maximize economic benefits by moving and as a result experienced at least a short-run disjuncture in employment and income. These disjunctures, however, were shown to be of relatively short duration.

The data provided by this study have provided the opportunity to clarify many of the issues associated with the new migration, at least in the North Central Region. It has been established why migrants moved, the types of places and residences in which they have relocated, the importance of returning "home" to migrants in the metropolitan-to-nonmetropolitan stream, some of the potential consequences of the move for the areas in which they settle, and, finally, some of the gains and losses migrants experience. Having provided at least tentative answers to the questions raised, the way is now clear for additional and more focused studies, for example a comparison of the new migration in other regions of the country, such as the Southwest, with the results from the North Central Region.

NOTE

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CHAPTER SIX

INDUSTRY'S ROLE IN NONMETROPOLITAN ECONOMIC DEVELOPMENT AND POPULATION CHANGE

Richard E. Lonsdale

An understanding of population change and redistribution in the Midwest as well as the whole United States must include an appreciation of spatial changes in employment opportunities. American labor is reasonably mobile, and if jobs are lacking locally, people often move to places of better opportunity. I am not suggesting that employment is the only factor influencing regional population shifts, although it may well be the most important consideration. A complex variety of other factors also influence a person's decision to migrate or remain where they are [28].

This chapter focuses on nonmetropolitan areas. It is in this sector of the Midwest and the nation that the celebrated "population turnaround" occurred in the late 1960s and early 1970s. The long-established pattern of net population outmigration from nonmetropolitan areas was slowed in the 1960s and then reversed [1]. Immediately preceding and associated with the population turnaround was the large-scale movement of American manufacturing plants into nonmetropolitan settings. It is only logical, therefore, to consider the role of industry or manufacturing (the two terms are used synonymously in this study) in this population change.

There are great differences of opinion on the subject of nonmetropolitan industrialization—its desirability, its economic impact, and its population impact. Indeed, emotional overtones tend to cloud the issues and make it difficult to be either objective or neutral on the subject. At one end of the spectrum is the view that industrial development has been a kind of salvation for small towns—providing jobs, giving people an alternative to outmigration, and bringing on an economic as well as a demographic turnaround. On the other hand, some see industry as a force exploiting rural labor, failing to solve social problems, bringing economic burden to small towns, having few beneficial demographic impacts, and adversely affecting physical environments. Not surprisingly, one can find evidence to support each of these points of view.

The objective in this chapter is to assess the general role of manufacturing expansion in the overall economic development of nonmetropolitan areas, with particular attention to the expanded employment base and attendant population change. Industrial growth is treated as a natural, almost inevitable phase in the evolution of nonmetropolitan economies as a whole. In effect, it is argued that the massive expansion of nonmetropolitan factory employment, and the attendant impact on population growth, were bound to occur

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sooner or later. That they occurred sooner in the United States than in many other nations is presumably ascribable to 1) sizeable metropolitan-nonmetropolitan differentials in wage levels and labor attitudes, 2) the greater deterioration of large city environments here than in other modern industrial nations, and 3) unusually good highways and trucking services.

The volume of literature examining nonmetropolitan economic development and demographic change has been increasing since the early 1960s, particularly since 1970. The publications pace is still quickening, reflecting a growing awareness of the significance to the whole nation of recent developments in nonmetropolitan areas. Useful bibliographies by Kale [17] and Smith, et al. [32], and comprehensive works by Summers et al. [34], Whiting [38], and Lonsdale and Seyler [24] are strongly recommended as research aids.

The Cycle of Areal Concentration and Deconcentration

The historical problems of nonmetropolitan areas are those associated with uneven regional development: limited employment opportunities compared with growing urban centers; demographic stagnation through outmigration, especially of younger and better-educated persons; the slow demise of many country towns as they lost central-place functions; the limited availability of many public and private services; an undiversified economy; and a frequent lack of confidence in the future. In effect, growth and prosperity were concentrated in the cities, and great inequities have prevailed between metropolitan and nonmetropolitan areas.

The historical origins of areal concentration and regional inequity in the United States are well-known. The farmlands of the Midwest had hardly been settled when the urban-industrial revolution hit the region with full force. With this revolution, the technological modernization of agriculture was initiated, bringing increased productivity and a declining need for farm labor. As larger urban-industrial centers emerged, with expanding employment opportunities, rural-to-urban population migration helped to reduce geographic imbalances in the labor market. Net outmigration became a necessary and standard feature of rural and small town areas. Life in the city was variously perceived as more comfortable, more secure, or more promising. Areal concentration and regional inequity became a fact of life.

The U.S. experience should be viewed within a theoretical framework applicable in virtually all modern societies. In the preindustrial stage of development there is comparatively little areal concentration and regional inequity. Most of the population is agrarian, and cottage industry accounts for much of the industrial output. This pattern of regional deconcentration is modified, however, with the advent of urbanization, industrialization, and technological modernization. Industry found higher profits where it concentrated in emerging urban centers to take advantage of scale and agglomeration economies and improved access to markets and suppliers [4]. The farm-to-city migration worked to the advantage of both rural areas, with surplus labor, and urban areas, with growing labor needs. But the stress of all this areal dislocation placed a great strain on the political and social fabric of society [22].

In time, however, as the industrial society matures, there emerge a number of elements which weaken the forces of areal concentration. In effect, industrial cities become too big. Diseconomies of scale become more evident, city images become tarnished, and deconcentration is fostered by capital migration, strong interregional linkages, and central government policy. The dispersal or decentralization of industrial activity becomes an accepted business practice. Therefore, regional inequalities begin to diminish, although probably never to the level of the pre-industrial state [39]. If the course of regional equality is plotted on a graph, it traces out a "U" curve, with the low point representing the time of maximum areal concentration. This theoretical framework for viewing the cycle of areal concentration and deconcentration is sometimes referred to as the "Williamson Thesis."

In the concentration-deconcentration cycle, transportation plays a critical but different role in each phase [5]. In the first or "centralization phase," improvements in transportation permit an originally dispersed industry to concentrate in far fewer places and achieve large-scale production economies. Lower transport costs make it possible for manufacturers to focus on reductions in production costs. In time, however, continued advances in transportation (as exemplified by the interstate highway system, widespread trucking services, air travel, and near-universal automobile ownership) facilitated a second or "decentralization phase." With a rapid and relatively inexpensive accessibility to the national market from almost any place in the United States, further production economies are achieved by relocating in lower-wage nonmetropolitan areas amidst growing regional markets. Chinitz' [5] observations may well be valid, and one is left with an uncomfortable feeling that "cheap energy" as reflected in inexpensive transportation has made possible areal deconcentration. What the impact of substantially higher energy costs will be on the geographic pattern of jobs and population growth is something very much on all of our minds, but it is difficult to assess because of the many imponderables.

The Record of Nonmetropolitan Industrialization

It is appropriate to examine the statistical record of nonmetropolitan manufacturing employment in the United States and the Midwest with three objectives in mind: 1) what have the specific trends been?, 2) does the record substantiate the concentration-deconcentration thesis?, and 3) does the more recent record suggest a causal basis for population changes which have taken place? It is assumed, a priori, that an increasing share of industry in nonmetropolitan areas means an increase in employment opportunities there and a decrease in areal concentration nationally.

The record is generally consistent with the concentration-deconcentration thesis. As evident in Figure 6.1 nonmetropolitan (or roughly equivalent) areas have accounted for an increasing share of total U.S. manufacturing employment in the past quarter-century, but prior to that the trend was generally downward. For both the United States and the Midwest, the overall pattern is that of a "U-shaped" curve, although the temporary reversal in concentration trends during the 1930s imparts a kind of "W" shape to the trend. An "industrial turnaround" occurred in the mid-1950s for the United States as a whole, but appears to have occurred in the late 1940s in the Midwest. Prior to this time, periods of economic slowdown or depression probably encouraged deconcentration, but since the industrial turnaround, deconcentration has generally been associated with economic expansion.

There has always been a fairly substantial amount of industrial employment in nonmetropolitan areas. With all the attention given to decentralization in recent decades, it is easy to overlook the fact that nonmetropolitan industry's share of the national total was apparently never below 22 percent in the United States as a whole and not much below 20 percent in the Midwest.

A fairly detailed record of nonmetropolitan industrialization is available for the years since 1959, thanks largely to the work of Claude C. Haren, Economic Research Service, U.S. Department of Agriculture [10, 11, 12]. Comparable data are available for the 1962-78 period. A brief summary of some of Haren's data is provided in Table 6.1.

In the 1962-1978 period, U.S. nonmetropolitan industrial employment increased by 1,822,000 or 47 percent, compared with a metropolitan increase of 1,426,000 or 11 percent. Nonmetropolitan areas, with 31 percent of the national population in 1970, thus garnered 56 percent of the national net industrial expansion. Industrial employment in nonmetropolitan areas now substantially exceeds agricultural employment, and with 29 percent of the nation's total industrial employment, nonmetropolitan areas can now claim to be almost as industrialized (ratio of employment to population) as the nation as a whole.

The 1962-1978 record was not an even one, with much of the nonmetropolitan increase coming during times of national economic expansion, particularly in the 1962-67 and 1971-74 periods. Overall, it can be generalized that the first eight years, 1962-70, were ones where industrial employment increased nationally, in metropolitan areas and in nonmetropolitan areas. The 1970-78 period, however, was one where national manufacturing employment stagnated, metropolitan employment declined, and nonmetropolitan employment increased. For example, between

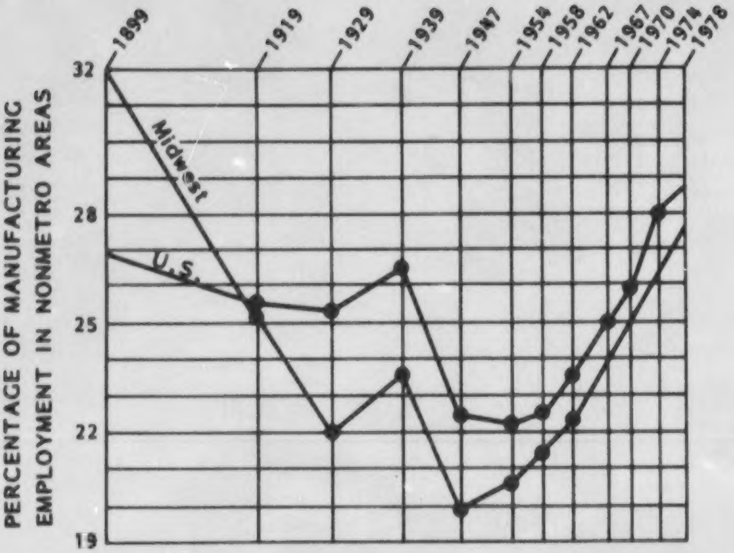

Fig. 6.1. Changing share of manufacturing employment in nonmetropolitan (or roughly equivalent) areas, United States and Midwest

Sources: 1899-1958 data from Creamer [6, pp. 30-31, 130-131] and 1962-1978 data from Haren and Holling [12, pp. 18 and 27]. The Haren and Holling data are specifically for nonmetropolitan areas, whereas Creamer's data are for counties outside industrial areas having fewer than 10,000 manufacturing employees and no city as large as 100,000 population. Where comparisons are possible, Creamer's data are roughly equivalent to those for nonmetro areas.

1970 and 1978, metropolitan areas experienced a net loss of a half-million jobs, while nonmetropolitan areas gained about 600,000. Nonmetropolitan communities are gaining industrial jobs largely at the expense of larger urban centers.

In the Midwest the situation has largely paralleled the national picture. The 1962-78 period saw a gain of 564,000 nonmetropolitan industrial jobs (a 48 percent increase), compared with a gain of 405,000 in metropolitan areas (a 10 percent increase). More recently, metropolitan areas have suffered a net loss of industrial jobs. The Midwest's share of total U. S. nonmetropolitan factory employment has remained at about 30 percent through this period [12, p. 29].

Manufacturing is not a growth sector of the U.S. economy, as the data in Table 6.1 demonstrate. Employment has remained

Table 6.1. Manufacturing employment in the United States and the Midwest[a]

	Total (thousands)	Metropolitan[b] (thousands)	Nonmetropolitan (thousands	Nonmetropolitan (percentage of United States and Midwest total)
United States				
1962	16,622	12,715	3,907	(23.5)
1967	19,390	14,541	4,849	(25.0)
1970	19,764	14,654	5,110	(25.9)
1974	19,983	14,320	5,663	(28.3)
1978	19,870	14,141	5,729	(28.8)
Change, 1962-78	3,248	1,426	1,822	
Midwest[c]				
1962	5,350	4,169	1,181	(22.1)
1978	6,319	4,574	1,745	(27.6)
Change, 1962-78	969	405	564	

SOURCE: Derived from detailed data in Haren and Holling [12].

[a] Wage and salary employment, adapted from Bureau of Labor Statistics—Employment Security estimates. All data for March of year indicated.

[b] Includes 225 mostly larger of the 278 SMSAs designated through 1977.

[c] North Central census region: Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, North Dakota.

around 19 to 20 million since 1966. In the same period, however, nonmetropolitan employment has climbed, albeit at an irregular and more recently diminishing pace, while metropolitan areas have suffered absolute declines. This continued nonmetropolitan growth demonstrates 1) the locational flexibility of many industry types, and 2) the continued preference for nonmetropolitan locations on the part of many industry executives. The record also suggests that nonmetropolitan industrial expansion may continue to slow down, with employment levels hitting a plateau as they have for the nation as a whole. Or, continued nonmetropolitan gains may be tied to ongoing metropolitan losses. The latter scenario may be a logical arrangement, and perhaps. . just perhaps. . .we will see larger cities depending less on manufacturing and more on trade and services, while the surrounding countryside becomes increasingly dependent on manufacturing.

The Place of Industrial Expansion in Economic Growth

Why is so much attention given to manufacturing, and how does industrial expansion affect growth in other sectors of the economy? Some clarification is in order.

Manufacturing's role in overall nonmetropolitan economic development is considered here within the context of standard economic base (or export base) theory.[1] It is reasoned that the export sector of the local economy provides the basic employment which in turn supports the local population through the importing of capital. The basic or "city-forming" activities are thus ones where the final product is exported out of the area. The nonbasic or "city-serving" activities provide goods and services to the local area.

For each new basic job, there is a presumed increase in nonbasic employment, and thus a multiplier effect. In its simplest form, the multiplier is the ratio of total new employment to the increase in basic employment. If, for example, a basic industry adds 10 employees and total employment in the local area increases by 15, the employment multiplier is 1.5. There are in theory similar economic base multipliers for income, retail sales, population, and so on.

Economic base theory provides a useful and legitimate framework for viewing the impact of new or expanded industrial employment. The measurement of specific multipliers is not so easy, however. Many facilities are partly basic and partly nonbasic. When new basic jobs are created, some workers may reside locally while others commute in from outside the local area. Employees may spend their money locally or outside the community. Existing industries may lose employment because of the new plant. Clearly, a multiplier observed for one community may bear little relationship to that found in another area. There are no rule-of-thumb multipliers which can be applied.

Many communities interested in economic and social improvement have tended to focus their efforts on expanding industrial employment despite the fact that manufacturing is not a growth sector in the national economy. In effect, small towns have been garnering an ever larger share of a more or less constant-sized pie, a circumstance having implications for the future. Growth in the national economy has been largely in the services, particularly wholesale and retail trade, finance and insurance, real estate, professional and personal services, and government. However, most of these sectors have traditionally been largely nonbasic, i.e., community-serving, as opposed to new manufacturing which has been largely basic.

There are many kinds of basic, job-generating economic activity that a community might acquire other than manufacturing. This includes tourism, recreation, retirement developments, mining, bringing new lands into agriculture, government activities, and transportation facilities. But the great majority of nonmetropolitan communities cannot logically expect to gain more than a few jobs in these areas. Most places lack the scenic surroundings, special climatic or situational advantages, mineral resources, water, political influence, or just plain good luck to be in a realistic competitive position for such developments. For many small towns, manufacturing offers about the only real opportunity for expanding the local employment base.

There is another reason for the focus on manufacturing. Unlike some other sectors, it has demonstrated a rather high level of locational mobility. The degree of mobility varies from one manufacturing sector to another, of course, but it tends to be highest in those very sectors (e.g., apparel, machinery and metal products, electronics assembly, furniture, etc.) which find nonmetropolitan locations particularly appealing. The attractions are well-known: modest wage levels, high labor productivity, lower levels of unionism, environmental considerations, pro-business attitudes, and the like [20].

The Evidence from Local Case Studies

A rather substantial number of case studies makes it possible to judge the general influence of expanded industrial employment on the overall economic development of local areas and attendant population change. Only four aspects of the local economy are considered here (employment, unemployment, income, and fiscal well-being of local government), as these have the most direct bearing on the economic base of the community and the ability to support population growth. There are, of course, many other important elements affected by new industry (e.g., retail sales, occupational structure and mobility, educational levels, welfare of elderly and minorities, environmental quality), not here considered, which certainly deserve attention in assessing the desirability of new industry.

In presenting the evidence from existing case studies, it is well to remember that these studies do not constitute a proper representative sample. A large share of the existing research has been set in the South and the Midwest (in particular the western Midwest). There is a clear emphasis on "problem" areas with low wages, especially in the South, and on "right-to-work" states.

Employment

With new industrial jobs, it is assumed there will be a multiplier effect, at least after a certain period of time, with a net gain in overall community employment exceeding the number of new industrial jobs. By and large, this has been the case, but the magnitude of the multiplier is highly variable.

In most cases the employment multiplier has been between 1.0 and 2.0 (1.0 signifies no net increase beyond the number of new industrial jobs). In a summary of 12 existing nonmetropolitan case studies, Summers et al. found employment multipliers ranging from 1.00 to 1.71, with half of them below 1.2 [34, pp. 55-56]. Reasonably impressive multipliers were found by Stevens and Wallace [33] in a 1947-60 study of an Indiana county (1.44), and by McArthur and Coppedge [25] in a 1950-66 study of a Utah county (1.67). In an examination of nonmetropolitan northern Great Plains counties, Dietz compared tertiary or services employment increases in 13 counties receiving new industries with those in 25 counties remaining unindustrialized. In the 1940-65 period, tertiary employment in the 13 "new industry" counties increased almost 60 percent, but less than 10 percent in the other counties [7]. In a study of rural and semi-rural Missouri counties, Braschler found manufacturing-caused long-run employment multipliers between 1.55 and 1.66 for 1950, 1.76 to 2.16 for 1960, and 1.99 to 2.20 for 1970 [3]. On the other hand, one Indiana community experienced an employment multiplier of only 1.02 following receipt of a chair assembly plant [36] and 389 new manufacturing jobs in a North Dakota community produced almost no employment multiplier effect [14].

A number of factors help explain why employment multipliers in nonmetropolitan settings are sometimes low: wages at the new plant may be low, many workers might commute from beyond the boundaries of the study area, many workers may do their shopping outside the area, local businesses might be able to handle increased sales without additional staff or store capacity, jobs held by previously underemployed persons may go unfilled, and the new plants might have a very low degree of interdependence with the local economy (i.e., purchase few or no supplies and services locally). The ideal situation for a high employment multiplier is a high-wage plant depending heavily on local supplies and services, with all workers living in the local area and doing most of their shopping there. This is, of course, less likely to be the case in a nonmetropolitan area than in a metropolitan one.

Unemployment

It might seem logical to assume that new industrial employment in a nonmetropolitan setting would automatically reduce local unemployment. However, the evidence is varied and generally disappointing in this regard. As Shaffer put it, "The record of the impact of industrial growth on unemployment is mixed, but it tends to indicate unemployment need not decline [30]."

In staffing a new or expanded facility, unemployed persons may constitute a very small share of those hired. In a study of nonmetropolitan plants in Iowa, Missouri, Kansas, and Nebraska, Kale found that only 6 percent of employees were unemployed prior to taking their present job (55 percent were employed by other firms, 18 percent were housewives, 11 percent were students, and 5 percent were self-employed) [18].

In summarizing the findings in existing case studies, Summers et al. found the unemployment rate declining in about two-thirds of the cases, but almost all such instances were in low-income Southern areas [34, pp. 60-61]. This suggests that the objective to significantly reduce unemployment through new industry may be more reasonable in those areas where there are relatively large numbers of unemployed persons willing to accept jobs in low-wage industries.

There are a number of reasons why employers may in effect largely avoid the local unemployed. Many may lack necessary skills or even be viewed as unemployable. If the new industry is of a higher-skill, higher-wage variety, the likelihood of hiring the local unemployed is even further reduced [34, pp. 48-49]. As word of the new jobs gets around, some persons (sometimes former residents) move into the area and others become long-distance commuters. In either case, if these "outsiders" are more employable than the local unemployed, they are more likely to be hired. Furthermore, a new industry will often induce new entrants (especially women) into the labor force, thus increasing the size of the labor pool. This latter situation can, in time, actually bring an increase in the rate of unemployment [16].

Income

The aggregate income in a community will almost certainly increase in response to new or expanded industry, and this has great significance for the merchants and others in a position to benefit from higher levels of business activity. But the effect on individual or family income levels is something else, and here the evidence is divided.

Several studies conclude that industry has had a positive impact on individual incomes. Summers et al. compare findings in existing case studies involving 28 counties in 11 states, and overall median results show about a 50 percent gain in per capita income (adjusted to constant dollars) over a 5- to 15-year period. In 20 counties, in 6 states, median family incomes increased between 26 and 155 percent over a 5- to 10-year period [34, pp. 64-67]. In a Jamestown, N. Dak., survey, 61 percent of the employees felt the new manufacturing job brought them an improved standard of living (9 percent felt they had experienced a decline) [14, p. 35]. The observations of Shaffer and Tweeten for eastern Oklahoma support the idea of very positive gains in worker incomes [31].

Two studies in the western Midwest contradict the notion that new industry brings an improvement in median family incomes. Seyler examined 242 nonmetropolitan counties in the West North Central census region for the period 1965-73, and concluded, "For most nonmetropolitan areas, evidence suggests industrial growth has no appreciable impact upon household income levels [29]." Dietz examined median family income levels in 1 northern Great Plains counties which had acquired major new plants and compared them with 25 non-industrial counties; over the 1949-65 period, the two county groups showed no significant differences in income gains [7, p. 24]. It is quite possible, but the evidence is not clear, that relative gains in individual or family incomes are greater in traditionally lower-income areas, but in other areas (e.g. the Midwest) new industry may provide jobs but not necessarily an improvement over "already respectable" prevailing income levels.

As for the share of the population in the "poverty" category, the case for new industry is rather supportive, even though, as noted earlier, unemployment levels may not decline much. In their study of new industry in four low-income areas of the United States, Kuehn et al. found that about one-fourth of the new industrial jobs were held by persons previously in the poverty category, but not all "poor" employees escaped poverty by taking these jobs [21]. West found a large reduction in the incidence of poverty among families in three Missouri counties with substantial increases in industrial employment in the 1960-70 period [37]. However, climbing out of the poverty category may be the result of a second person in the family becoming a wage earner...rather than any one wage earner doing it on their own.

Fiscal well-being of local government

Some local governments seek new industry and a larger employment base as a means of expanding the tax base and easing budgetary problems. Ideally, increased public revenues should equal or exceed the cost of added public services without a hike in tax rates. However, net changes in the public sector are often small or negative, in contrast to the frequently substantial private sector gains.

Several case studies show that added public revenues, direct and indirect, from new manufacturing either don't meet or barely meet added public costs. None of the studies noted a public revenue surplus or a tax cut. For example, Garrison examined five towns in

Kentucky and found new industry had a negative effect on fiscal accounts of local governments, especially school districts, but this was later changed to a net gain by eliminating tax concessions to industry and imposing new taxes [9]. In eastern Oklahoma, Shaffer and Tweeten postulate a negative impact on local governments in 6 of 12 instances [31, p. 13]. On the other hand, Summers et al. conclude that net fiscal gains to local government can occur, especially when no local subsidy is offered the industry, but that "anticipated benefits to the local community generally exceed perceived benefits after development" [34, p. 4].

Population

Population growth tends to reflect favorably on the economic health and overall vitality of a community, and while some persons may oppose rapid population increases, most support at least modest gains. Population decline, it is safe to say, is viewed negatively by virtually everyone in nonmetropolitan communities.

A useful survey of 58 existing case studies of new industries across the United States is provided by Summers et al [34, p. 21]. Where towns were examined, 86 percent subsequently experienced a population gain, and where counties were the unit of analysis, 52 percent experienced a gain. For the Midwest, the figures were more divergent, 93 and 35 percent, respectively. The locale and timing of these studies varied, of course, but one is inclined to accept Summers' assessment [34, p. 22]:

> These figures suggest that towns are more likely to grow as a result of industrial growth than counties; that the demographic effect of the new plant is concentrated around its location. In many instances, the towns containing, or nearest to, the factory grew, while the surrounding country declined, suggesting that outmigration was continuing from rural areas. However, some workers who may otherwise have moved out of the county in search of a job, may have moved to the locality of the plant, thus adding to migration into the towns, but having no effect on county population levels.

Other studies support the conclusion of a positive population impact, although most avoid noting any specific multipliers, i.e., the ratio of population gain to basic employment increase. In 18 study areas previously losing population, new industry had the effect of slowing the decline in three cases, halting it in three cases, and reversing it in 12 cases [34, p. 23]. Peterson refers to an Arkansas study for the 1950-66 period where, following large industry gains, the population initially fell but then rose very impressively; net inmigration came to exceed threefold the natural rate of increase [27]. In Dietz' northern Great Plains study, population decline was reduced and central places grew more impressively in 13 counties receiving industry compared with 25 counties which did not [7, p. 24]. In a Missouri study of rural and semirural counties, Braschler found a population multiplier of about 5.0, i.e. 100 new manufacturing jobs brought a population increase of 500 [3, p. 15]. Summarizing the situation, Beale observed that "during the 1960s nonmetropolitan counties with a strong manufacturing base were much more retentive of population than were nonmetropolitan counties as a whole," although he went on to note that, "In the 1970s. . .this trend has been greatly modified [2].

Increased inmigration, as well as reduced outmigration, helps to explain the population growth. In a study of migrant response in four rural areas in the 1965-70 period, Olsen and Kuehn found that 22 percent of the new industrial jobs were held by migrants, including returnees [26]. For Central Plains nonmetropolitan industries, Kale found that 21 percent of the employees at male-majority plants moved into the area to take their new jobs, while the figure was 6 percent at female-majority plants [19]. Helgeson and Zink found that 37 percent of the employees at four new North Dakota plants changed their residence to take the job, and most were from outside the local area [14, p. 40]. Nationally, higher-wage industries had a greater impact on inmigration than did low-wage operations. But whatever the wage level, the record shows that new factory employment can arrest population decline and spur population growth. For many communities and many areas this in itself may have more meaning than anything else.

Generalizing at the National Level

Having examined the situation at the local level, it is appropriate now to consider the national picture, in effect the sum total of thousands of local experiences. Specifically, how have gains in nonmetropolitan industrial employment been related to overall nonmetropolitan employment increases, with the latter assumed to be a requisite for population growth in most areas?

A useful framework for noting recent employment shifts is provided by the primary-secondary-tertiary transitional thesis. As a nation or region achieves economic growth, agriculture declines in relative importance, giving way to manufacturing. Then, in time, manufacturing expansion levels off, accompanied by growth in such service sectors as wholesale and retail trade, personal and professional services, finance-insurance-real estate, and government. This long-term shift in emphasis from primary (agriculture) to secondary (manufacturing) to tertiary (services) activity is characteristic of maturing economies.

In the period 1960-70, nonmetropolitan manufacturing employment increased by 1.25 million or 36 percent. In the same period, nonmetropolitan farm employment declined by 1.12 million [11, p. 8]. Thus, new factory employment alone was more than offsetting the very large decline in farm labor. In earlier decades, the even greater losses in farm employment were nowhere near offset by gains in manufacturing and other basic sectors, with the inevitable result of net population outmigration. The 1960-70 decade thus demonstrated a dramatic "turnaround" in basic or community-forming employment, with self-evident implications in explaining the celebrated population turnaround.

Manufacturing played a critical role in the 1960-70 period. As the data in Table 6.2 indicate, it accounted for 1.25 million or 31 percent of the 4.06 million total gain in nonagricultural employment. Assuming most manufacturing is basic in character, and assuming at least a modest (say, 1.5) employment multiplier, manufacturing probably accounted for nearly half of all new basic employment. It is difficult to say with any precision, of course, because we don't know what share of the service-preforming and transportation-communications-utilities sectors could be classified as basic. In certain recreation-oriented areas, for example, much of the basic employment gain was probably in the services sector, but for nonmetropolitan United States as a whole, manufacturing was the undisputed basic employment gain leader in the 1960s.

The story is different in the 1970s. Manufacturing has accounted for only 619,000 new nonmetropolitan jobs or less than 14 percent of the total nonagricultural employment gain of 4.6 million in the 1970-78 period (Table 2). Perhaps this reflects the national slowdown in new plant and equipment investment by manufacturers. Perhaps it reflects the vulnerability of lower-wage, standardized-technology, more routinized "filtered-down" industries [8] to foreign imports (with electronics assembly providing an excellent example). Or, perhaps it is a case of nonmetropolitan areas—particularly those with larger towns—developing more mature economies, with

Table 6.2. Changes in nonfarm wage and salary employment, nonmetropolitan United States

	Change 1960-1970[a] (thousands)	Change 1970-1978[b] (thousands)
Total	4,058	4,575
Goods-producing	1,387	977
Manufacturing	1,254	619
Construction	206	303
Mining	-73	55
Service-performing	2,655	3,452
Private sector	1,503	2,538
(a) trade	652	1,300
(b) service groups	721	1,023
(c) finance, insurance, real estate	130	215
Government	1,152	914
Transportation, communications, and utilities	16	146

SOURCES: Haren [11, p. 8] and Haren and Holling [12, p. 18].

[a] Adapted from State Employment Security Agency estimates.

[b] Adapted from Bureau of Labor Statistics—Employment Security estimates for March of respective years.

manufacturing employment leveling off and growth increasingly concentrated in the service-performing sectors. In effect, strong gains in service employment can be expected to follow strong gains in manufacturing after a certain period of time.

The latter explanation has much appeal. As Table 6.2 shows, the overall nonmetropolitan employment increase in 1970-78 exceeded that of the 1960-70 period, yet manufacturing gains were only half as great. The big gains were in the service-performing sector, both private and governmental. It can be reasoned that nonmetropolitan areas have passed through a stage of rapid industrialization, and with a subsequent emphasis on services they are now assuming an employment profile more similar to the national average. This would seem to be a fair generalization for the nonmetropolitan U. S. as a whole, but it does not imply that all nonmetropolitan areas will experience this transition. Nor does it imply that industrial growth provides the only avenue to economic maturity; areas with important basic employment in tourism, recreation, government, etc. can obviously by-pass the industrial stage.

Historically, the population of American cities grew as employment in manufacturing and the services expanded. More recently, many metropolitan areas have experienced population declines, and surely the net loss of over a half-million manufacturing jobs between 1970 and 1978 alone must contribute substantially to this loss. At the same time, nonmetropolitan areas have been gaining population, and surely increases in industrial and services employment must share credit for this gain.

The relationship between population growth and the *level* of manufacturing employment has been studied by several analysts, with mixed and inconclusive results [13, pp. 120-121]. This is not surprising, as the focus should be on the population response to *increases* in level of industrial employment. There is little reason to assume that areas with long-established high levels of industrial employment will experience population gain; indeed, new plants may purposely avoid such areas and instead disperse themselves away from centers of employment concentration so as to minimize competition for labor [23].

Heaton and Fuguitt, for example, examined the effect of both level and growth of manufacturing on net population migration in nonmetropolitan counties for the 1950-75 period [13, pp. 119-136]. For the 1950s they found that the presence of lower-wage firms had a small positive effect on migration levels, while higher-wage firms had a moderate positive effect, but by the 1970s both effects were reduced. Growth in higher-wage industry had a substantially greater effect on migration than did growth in lower-wage jobs, and overall the effects of industrial employment growth became smaller over time. That manufacturing should have little effect on migration levels since 1970 is attributed to the increasing importance of service employment [13, pp. 128-130]. This is consistent with the thesis that a maturing regional or national economy shifts emphasis from the secondary to tertiary sectors.

The direct linkage between manufacturing growth and population change on the regional or national level is not easy to establish. This paper has focussed on the direct and indirect job-generating aspects of industrial expansion, and the positive impact of such expansion on population trends has been noted at the local level. At the national level, we can say that the direct and indirect expansion of jobs with nonmetropolitan industrialization was directly followed by dramatic population changes. Thus, *ipso facto*, it would seem quite safe to conclude, as Beale has, that the "growth of manufacturing has been a centerpiece of the revival of nonmetro population retention" [1, p. 9].

Summary Thoughts

The industrialization of nonmetropolitan America should not be viewed as an isolated phenomenon, but rather as an essential phase in the overall economic and social transition of these areas. Forces common to virtually all advanced countries have been operative in the United States. The nation has passed through the phase of areal concentration of industry and people, and deconcentration trends are now widely evident. In a sense, nonmetropolitan areas have been "developing lands" transcending agrarian emphases and moving on to manufacturing and subsequently to service-performing activities. In the 1960s we saw the peak of the industrialization phase, and the emphasis now has clearly shifted to the services sector. Economic base theory provides a useful context for appreciating industry's role in expanding the employment base, bringing population growth, and laying the groundwork for a greater emphasis on service activities.

Perhaps it has been wasted energy to debate the desirability of nonmetropolitan industrialization. Like it or not, its time had come. To be sure, conditions and actions at the local level could encourage or discourage industry and thereby affect the locational pattern, but overall the U. S. social and economic system had progressed to the point where the areal decentralization of industry was inevitable. With 29 percent of the industrial employment and 31 percent of the population, nonmetropolitan areas are now industrialized. It is a *fait accompli*.

There are many reasons for criticizing nonmetropolitan industrialization. By and large, it has not necessarily improved income levels, except in very low-income areas, largely in the South. It has not solved the unemployment problem, and it has not eliminated poverty. Furthermore, it has not been a fiscal boon for local governments. I'm generalizing, of course, and I'm sure there are many exceptions to what I am saying. But the fact that industry has not solved these problems in smaller communities should not surprise us. Industry has been in the larger cities for a long time, and it has not solved these problems there either.

Nonmetropolitan industry has been praised as well as criticized, and it is important to recognize realistically what it can do. To begin with, it can increase the size of the employment base and the range of employment opportunities. It can reduce the portion of the labor force in the poverty category. Above all, it can induce population growth, and this is an ever so critical consideration for areas long accustomed to population stagnation or decline.

NOTE

[1] For a summary treatment, see Isard [15]. For a more detailed discussion of the application of economic base theory, see Tiebout [35].

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CHAPTER SEVEN

POPULATION REDISTRIBUTION AND CONFLICTS IN LAND USE: A MIDWESTERN PERSPECTIVE[1]

David Berry

The growth of population in rural retirement areas, in nonmetropolitan communities experiencing an influx of new industry, or along the rural-urban fringes of midwestern cities brings with it both benefits and costs. One set of costs results from the intrusion of urban development into rural or less built-up areas. Consequently, population redistribution sets in motion conflicts over land use which may or may not result in restrictions on how land is used within any locality.

In this chapter we examine the midwestern landscape under the pressures of population redistribution along four dimensions: 1) the nature and extent of the conversion of land from rural to urban uses, 2) the values associated with rural landscapes, 3) efforts at controlling land uses to minimize value conflicts, and 4) obstacles to applying land use controls. Thus, the topic is somewhat restricted, addressing issues outside already urbanized areas, and indeed addressing only one basic issue—protection of the traditional rural landscapes of prairie, woodlands, lakes, and farms as they come under urban influence. Many problems such as site-specific performance standards, increased density in some suburbs, racial integration, water pollution, air pollution, and dozens of others are not treated here. This should not be taken to mean that they are unimportant, because they are obviously significant. But time does not permit us to explore every aspect of land use and population redistribution. Protection of open spaces is one issue that has affected many areas, however, and it therefore deserves considerable attention.

The Conversion of Land from Rural to Built-up Uses

As the farm population declines[2] and as the nonfarm population decentralizes from large cities or moves into small cities, nonmetropolitan areas, and retirement commmunities, [1], land is required for residences, commercial activities, industry, recreation, public services, and transportation (Table 7.1). Typically, as population density increases, the percentage of the land in built-up uses increases at a decreasing rate (Table 7.2). The new nonfarm, semi-suburban and semi-rural populations live and work at low densities and require new infrastructure (such as roads) in areas where little or none existed before. Because of this, the conversion of land to urban uses goes on at a greater rate than might be expected from the rate of population increase in these areas.

Table 7.1. Urban land use requirements in selected midwestern counties

Region	Time period	Urban land use requirements (acres) Per net new resident	 Per new dwelling unit
Kansas City SMSA[a]	1970-74/75	----	.417
Outer ring of Suburbs in Minneapolis-St. Paul SMSA[b]	1970-75	.189	-----
11 rapidly growing Cornbelt counties[c]	1960-70	.142	-----
6 rapidly growing Great Lakes counties[d]	1960-70	.173	-----

SOURCES:

[a] [34, 37].

[b] [13, 27]. Excludes public and recreational uses; counties are Anoka, Carver, Dakota, Scott and Washington.

[c] [44]. Counties are: DuPage, Lake and Will, Illinois; Porter, Indiana; Boone, Clay, Jefferson, St. Charles, and St. Louis County, Missouri; Sarpy, Nebraska; and Johnson, Kansas.

[d] [44]. Counties are: McComb and Washtenaw, Michigan; Waukesha, Wisconsin; and Anoka, Dakota, and Washington Counties, Minnesota.

Table 7.2. Percentage of land in midwestern counties in urban uses

Variables:
U = Percentage of county land area in urban uses in 1967
P = Population density (1967) of county in persons per acre

Lake States (Minnesota, Michigan, Wisconsin):

metro	$U = 23.571P^{.611}$	$R^2 = .79$
nonmetro	$U = 17.832P^{.502}$	$R^2 = .54$

Cornbelt States (Ohio, Indiana, Illinois, Missouri, Iowa):

metro	$U = 21.052P^{.868}$	$R^2 = .84$
nonmetro	$U = 12.794P^{.429}$	$R^2 = .38$

Northern Plains States (North Dakota, South Dakota, Nebraska, Kansas):

metro	$U = 21.370P^{.572}$	$R^2 = .92$
nonmetro	$U = 27.086P^{.616}$	$R^2 = .50$

SOURCES: Calculated by Thomas Plaut from data from the 1967 Conservation Needs Inventory and 1960 and 1970 Census of Population.

Within any locality the pattern of urban expansion is often quite scattered (Figures 7.1 and 7.2 and Tables 7.3 and 7.4), generating a change in the appearance of the landscape from rural to something intermediate between urban and rural. In many parts of the Midwest, where agriculture predominates, development tends to occur on that flat, cleared land roughly in proportion to the percentage that agricultural land is of all land in the area (Tables 7.3 and 7.4 and Zeimetz et al., [44]). But where there are lakes or other attractions, as one might find in recreational development areas or in the northern parts of the Midwest, development often occurs clumped near these amenities as around the lakes in Anoka County, Minnesota (Figure 7.1).

The effects of urbanization in rural areas, however, go beyond the conversion of land to urban uses [6]. Among the indirect effects of urbanization are:

1) The decline of the political status of the farmer or other long-term rural resident as suburban or exurban families or retired persons move into the community. This can lead to:
2) The imposition of suburban-oriented regulations on routine farm activities, higher property taxes to pay for suburban services, mischievous behavior by suburban residents disruptive of farming, and so on. And:
3) Speculation in land, perhaps the most important effect of urbanization.

These spillover effects make the future of farming more uncertain on the rural-urban fringe. As a consequence some otherwise productive farmland is idled in anticipation of future urban development (perhaps on the order of one-half acre for every acre developed

Table 7.3. Transition matrix of land use changes in Anoka County (part) Minnesota 1967-1975—all soils (percentage of 1967 acreage in uses indicated in 1975)

Use in 1967	Use in 1975						Total acreage 1967
	Cropland, orchards and nurseries	Other cleared land	Woodlands	Residential	Other urban	Other	
Cropland, orchards and nurseries	85.6	5.8	0.1	7.1	1.4	0.0	56,396
Other cleared land	1.0	90.2	1.1	5.1	2.4	0.2	31,473
Woodlands	0.4	1.3	89.6	8.4	0.3	0.0	30,790
Residential	0.0	0.0	0.0	100.0	0.0	0.0	14,135
Other urban	0.0	0.0	0.0	0.0	100.0	0.0	5,851
Other[a]	0.1	0.0	0.0	0.0	0.1	99.8	7,809

[a] Largely lakes.

Table 7.4. Transition matrix of land use changes in Dakota County (part) Minnesota 1967-1975 (percentage of 1967 acreage in uses indicated in 1975)

Use in 1967	**Use in 1975**						**Total acreage 1967**
	Cropland, orchards and nurseries	**Other cleared land**	**Woodlands**	**Residential**	**Other urban**	**Other**	
			---ALL SOILS---				
Cropland, orchards and nurseries	84.6	4.6	0.1	6.5	4.1	0.1	37,197
Other cleared land	0.0	77.0	3.6	11.4	7.2	0.8	8,994
Woodlands	0.1	1.1	84.9	12.5	1.4	0.0	10,172
Residential	0.0	0.0	0.0	100.0	0.0	0.0	7,236
Other urban	0.0	0.0	0.0	0.0	100.0	0.0	2,193
Other	0.0	0.0	0.0	0.0	0.0	100.0	2,504
			---PRIME SOILS ONLY---				
Cropland, orchards and nurseries	88.0	3.6	0.1	5.4	2.9	0.0	23,666
Other cleared land	0.0	75.0	2.1	12.4	10.5	0.0	1,552
Woodlands	0.0	0.3	84.7	15.0	0.0	0.0	1,090
Residential	0.0	0.0	0.0	100.0	0.0	0.0	2,181
Other urban	0.0	0.0	0.0	0.0	100.0	0.0	1,036
Other	0.0	0.0	0.0	0.0	0.0	100.0	157

[28]) and there is a slow switchover from dairying to cash grain farming within the dairy belt [6, 7, 12]. Dairy farming requires both large investments in immobile capital, that may not be recoverable if the land is developed, and a great deal of on-farm labor that may appear unattractive as opportunities to work in urban areas improve with expanding development.

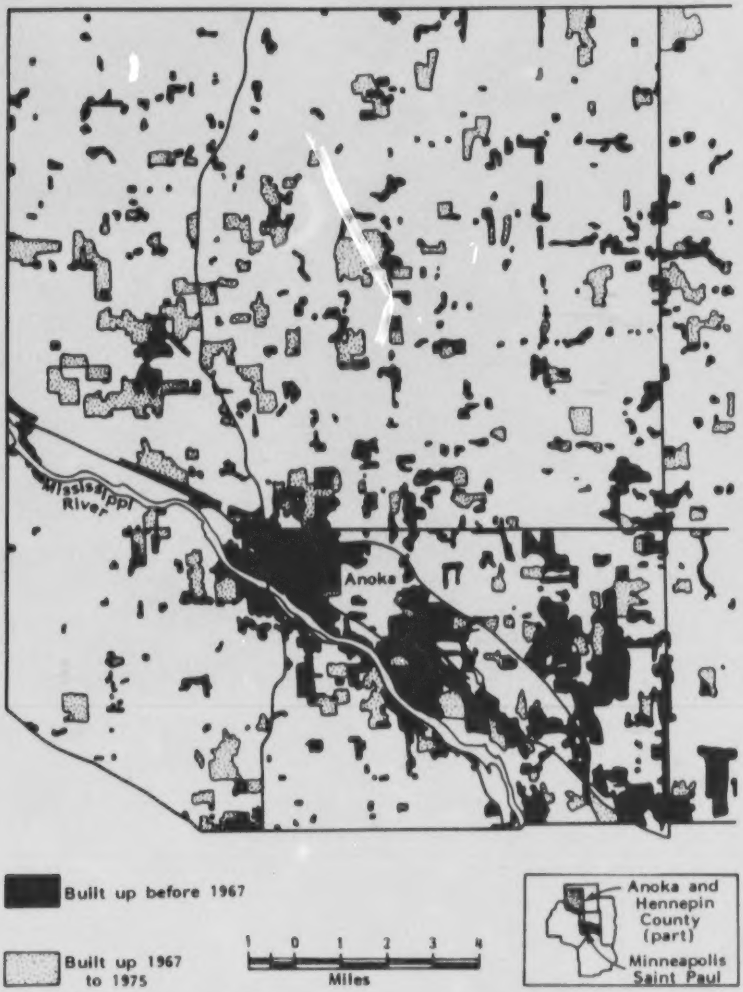
Mississippi River
Anoka
Built up before 1967
Built up 1967 to 1975
1 0 1 2 3 4
Miles
Anoka and Hennepin County (part)
Minneapolis
Saint Paul

Fig. 7.1. Built-up land in Anoka County, Minnesota

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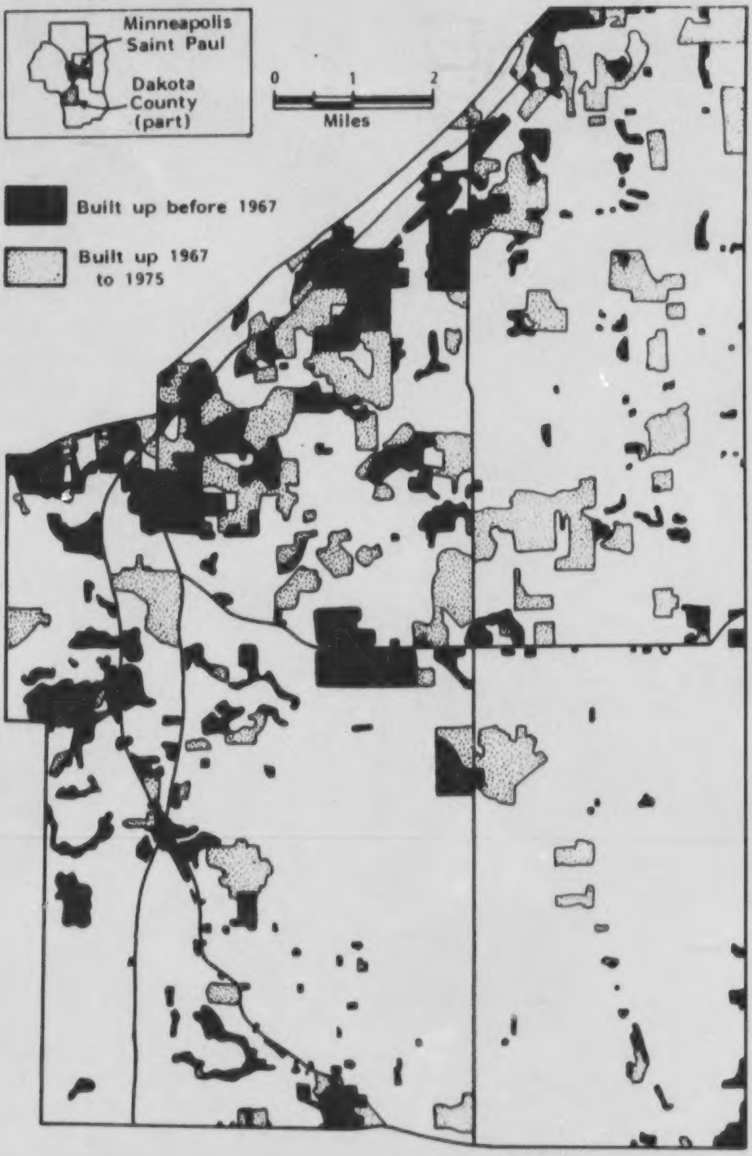
Minneapolis
Saint Paul
Dakota
County
(part)
0
1
2
Miles
Built up before 1967
Built up 1967 to 1975

Fig. 7.2. Built-up land in Dakota County, Minnesota

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Most changes in rural land use, and especially the conversion of rural land to urban uses, are institutionalized in the land market. Here, demand and supply factors come together: rural land owners may be pushed or pulled into selling; farmers may switch from one land use to another or idle their land; banks and savings and loan associations bring together savers and investors; local, state, and federal government agencies create infrastructure and thereby influence the pattern of development and the price of land; and developers and builders directly alter the landscape. These processes are summarized in Figure 7.3.

Recent trends in the land market can be extrapolated to estimate the magnitude of the conversion of rural land to urban uses in the future. Huemoeller and his colleagues [19] forecast requirements of 9,297,000 acres for additional urban development, transportation uses, recreation, strip mining, etc. (from agricultural land) in the North Central Region between 1967 and 2000. Of these requirements they have projected that 2,647,000 acres will be withdrawn for urban development. These urbanization estimates may be low since they were arrived at using the average of built-up acreage per person for 1960 and 1970 in existing "urban places" (over 2500 persons and over 500 persons per square mile), which overlooks the low densities characteristic of newly developing areas.

For the State of Illinois, Roger Schneider [32] estimated that about 25,000 acres of rural land would be converted to urban uses and highways each year (on average) between 1975 and 2000 to accommodate an increase in population of around 2,800,000 people. If farmland were converted to urban and highway uses in proportion to its 1974 share of Illinois land, about 505,000 acres of farmland would be lost in total over the last quarter of the century. Schneider's estimates are based primarily upon urban acreage per person averaged for 1960 and 1970 in a sample of cities classified into four population size categories. The resulting estimates may be low because they are derived from average population densities and not increments to urbanized areas; they may also reflect some upward bias because of the high population projections.

Values of the Landscape

Despite the dominance of the land market, it cannot express the entirety of the range of values associated with rural landscapes [5]. Among the noneconomic values of the landscape are:

1) Functional values: These are concerned with the use of land so as to take advantage of beneficial natural processes and to avoid harmful natural processes. For example, the conversion of highly productive agricultural land is functionally wasteful. Although one may argue that the loss of another few percent of the large, productive midwestern land resource base is of little consequence (and that this insignificance is properly reflected in the land market),

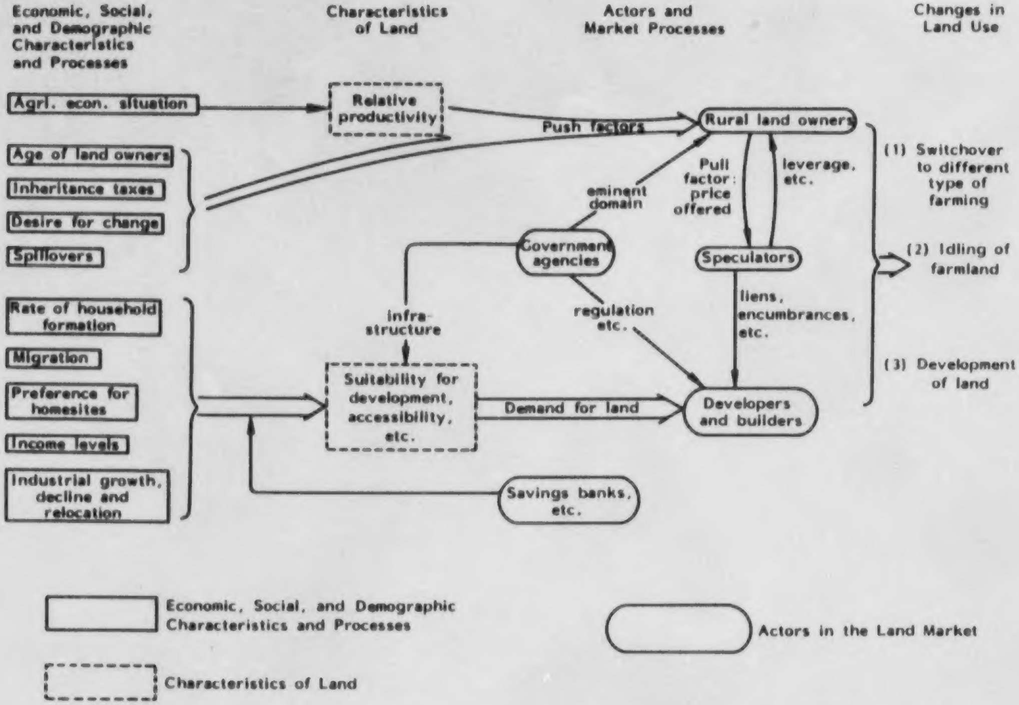
Economic, Social, and Demographic Characteristics and Processes
Characteristics of Land
Actors and Market Processes
Changes in Land Use
Agri. econ. situation
Relative productivity
Push factors
Rural land owners
Age of land owners
Inheritance taxes
Desire for change
Spillovers
eminent domain
Pull factor: price offered
leverage, etc.
(1) Switchover to different type of farming
Government agencies
Speculators
(2) Idling of farmland
Rate of household formation
Migration
Preference for homesites
Income levels
Industrial growth, decline and relocation
infra-structure
regulation etc.
liens, encumbrances, etc.
(3) Development of land
Suitability for development, accessibility, etc.
Demand for land
Developers and builders
Savings banks, etc.
Economic, Social, and Demographic Characteristics and Processes
Actors in the Land Market
Characteristics of Land

Fig. 7.3. A simplified model of the land market at the rural-urban fringe

the long-run view cannot be so marginal. The next 100 years may very well see a decline in the increases in agricultural productivity that have occurred over the last 50 years, a great increase in world demand for agricultural products from the United States, and less favorable climatic conditions than have occurred in the last 50 years [33]. Plaut [30] has looked ahead only 25 years and estimated that under mildly pessimistic conditions (as just described) the reserve of potential cropland (from Didericksen [14]), in the United States that can be brought into production at low or moderate cost would be just sufficient to meet these new production requirements after replacing farmland converted to urban uses. Although 100 years may seem like a long time, it is a relatively short period in the history of nations. A safe minimum standards approach to protect as much prime cropland as possible would seem appropriate for dealing with the agricultural future of the Midwest given the uncertainty of the long-range future. Why destroy a valuable, though plentiful, resource? Scarcity is not the sole prerequisite of value.

At the local level planning with functional values in mind may be directed toward avoiding development of prime agricultural land (although there does not seem to be a particularly strong bias of development either toward or away from prime land in the Midwest at present [39]). In addition, the avoidance of development in areas subject to flooding or in aquifer recharge areas may also promote functional values.

2) Aesthetic values: Although a good deal of the midwestern landscape lacks variety, being flat with little to break the seemingly endless fields of corn, soybeans, or wheat, the margins of the region feature woodlands, hills, tablelands, and lakes. And in many areas the river valleys frequently offer enclosed views of linear themes in contrast to the open, broad prairie where the sky is typically the dominant landscape component.

At a local level the Midwest may suffer unaesthetic intrusions into the farmlands or woodlands from scattered urban development or strip mining (see Figures 7.1 and 7.2). Sprawling residential and commercial development transform the landscape from a rural one into something intermediate between rural and urban, often with little redeeming architectural value. This pattern is especially stark when there are no hills or trees to soften its aesthetic impact.

3) Ecological values: Natural areas consisting of habitats sufficiently large to support a wide range of native plant and animal species can promote ecological values. These values are concerned with the protection of plant and animal communities and associations not for the benefit of people but for the benefit of the plants and animals themselves. The intrusion of development into grassland, wetland, or forest can have detrimental but not necessarily obvious consequences for these species. In the Midwest, marshes and lakes that serve as habitats for migratory waterfowl

are particularly good examples of extensive areas with ecological values. Relic areas of prairie are rather rare although some state parks (such as Goose Lake Prairie State Park in Illinois) do protect this type of habitat. And boreal forest wilderness in the Boundary Waters Canoe Area reflects yet another example of midwestern ecological resources.

4) Contemplative values: Within this category of values are placed the ideals and images associated with the rural landscape. These include the ideal of the family farm, and indeed the garden image which shaped the attitudes of the early settlers and the pattern of land use [35]. The back-to-the-farm movement is also in part a reflection of the contemplative values of living off the land. In addition, contemplative values of the rural landscape encompass other images such as recollections of past experiences in specific rural areas or scientific study of native plant and animal species [36].

Controlling Land Use

The Midwest exhibits a great deal of variation among states, counties, and municipalities with regard to land use controls to maintain open space. In nonmetropolitan areas and along rural-urban fringes, the pressures of increased population have induced some communities and states to regulate land use or to purchase scenic or conservation easements on rural land, or to provide incentives to rural land owners to keep their land in rural uses. With some important exceptions (Wisconsin and the Twin Cities area, for example) the Midwest has probably not shown the initiative or innovativeness of New York, New Jersey, Maryland, Florida, California, Oregon, or Hawaii [8, 23].

Regulation of land use

Zoning is the best known form of regulation, but as we shall see, there are other types as well. Zoning land for exclusive farm use or for conservation uses at the county or local level (and occasionally at the state level) is practiced in a number of midwestern localities. For example, in Wisconsin many counties have delineated shoreland areas for conservation or agricultural uses in response to the Water Resources Act of 1966 [41] and are in the process of zoning farmland for exclusive farm use to allow farmland owners to partake of tax benefits in response to new farmland preservation legislation [3]. In Illinois, some 24 counties have limited residential development in agricultural zones by means of at least a five acre minimum lot size (60 acre minimum in two counties) or by prohibition of residential development in such zones without a special permit [9]. And, as a third example, Blackhawk County, Iowa (containing the city of Waterloo) has restricted residential development from prime agricultural land as defined in terms of a corn suitability index [10]. None of these programs has yet been analyzed with regard to effectiveness, however.

The legal framework surrounding zoning of rural land for rural uses has proved to be critical in applying this method of land use control. First of all, the zoning ordinance must comply with the enabling legislation, serve the public health, safety, or welfare (by stating how it does so), and define the uses permitted as of right, by means of special approval, and the criteria upon which such approval depends [26].

Besides the formal requirements of drawing up a zoning ordinance, the constitutional issues of the diminution in the value of land zoned for exclusive rural uses and the limits on regulatory power must be addressed. One midwestern case, *Just v. Marinette County*, (Wis.) 201 N.W.2d 716 (1972), has been of landmark importance. This case was concerned with the filling of marshland near a lakeshore zoned for conservation uses. The Wisconsin Supreme Court held for Marinette County establishing two important principles: 1) the diminution-in-value issue refers not to some speculative future value but diminution in value with respect to the current use, and, 2) the protection of existing public landscape values (as opposed to the creation of new public benefits) is within the regulatory power of the County [25].

Regulation of land use may also occur in the form of regional or state level review and approval of local land use plans and ordinances to see that open space goals are promoted. The Metropolitan Council of the Twin Cities is one such body that effectively employs this procedure in the Midwest [18, 22, 31]. In 1975 it adopted a Development Framework Plan which delineates areas for urban services and rural services. Within the rural service area no metropolitan sewer service is to be provided until after 1990; and within the commercial agricultural regions inside the rural service area no urban services, no residential subdivision, and no actions interfering with agriculture may be implemented. These regulations effectively limit the amount of urban development that can occur in the rural service area. The specifics are left up to the minor civil divisions, but according to the Land Planning Act of 1976 their plans and ordinances must be approved by the Metropolitan Council which considers the regional overview as defined by the Development Framework.

Public purchase of scenic or conservation easements

By purchasing the development rights on land to protect aesthetic, functional, contemplative, or ecological values, states and the Federal government have attempted to control land use in a few parts of the Midwest. These programs essentially involve negative easements preventing undesirable changes in land use although some permit public access for recreation (positive easements).

The largest program is the Federal Government's purchase of easements in gross (and in some cases the fee) on wetlands in the

Dakotas, Minnesota, and Nebraska to maintain habitats for migratory waterfowl [20]. The "development" in this case is not urban but rather farm drainage activities. More oriented toward urban development are the Wisconsin State Division of Highway's appurtenant easements [11, 43]. These have been purchased primarily along the Great River Road and now include some 17,000 acres of land on which new commercial development, dumping, tree-cutting, and billboards are prohibited. In addition, a minimum of a five-acre lot or 300-foot frontage is required for residences. The cost of this program has been relatively low because the easements have been purchased in semi-rural areas. Generally speaking, though, where development pressures are strong, the costs of easements may become prohibitively high.

Incentives for retaining open space

Because urbanization generates a number of spillover effects such as the regulation of routine farming activities to serve urban needs or increases in property taxes, disincentives to farming may occur on the rural-urban fringe [6]. Of these various spillovers, the issue of higher property taxes near urban areas has attracted the greatest attention in the Midwest. It is argued that higher property taxes can force some farmers into selling their land to speculators or developers earlier than they otherwise would like to.

That property taxes are higher near urban areas (assuming land is assessed at its market exchange value) can be seen in Figure 7.4 for Wisconsin. However, whether lowering the property taxes will decrease the rate of loss of land in farms is another matter. Two statistical studies in Ohio for the period 1964-1973 indicate that where urban pressures are strong any ameliorating influence of lowered property taxes would be swamped out by strong demands for urban land and land speculation [4, 29]. In the rural, productive cornbelt areas of Ohio, lowering property taxes would probably have little effect on the rate of change in land in farms; but, in the marginal farming areas of eastern Ohio, lowering property taxes may reduce the cash flow problems of enough farmers to allow them to hold onto their operations a few more years and thereby temporarily reduce the rate of loss of land in farms.

To reduce the property tax burden on farmland owners and some other open-space owners, all the midwestern states except Kansas had some sort of differential assessment law by 1978 which either assessed farm and other eligible land on the basis of its current value, not its higher market value, or granted an income tax credit [3, 21]. Indiana, Iowa, Missouri and the Dakotas simply assess farmland at its agricultural use value ("pure preferential assessment"). In contrast, Illinois, Minnesota, Nebraska, and Ohio require that a specified number of years of back taxes on the difference between the market value of the land and the agricultural use value of the land be paid if the differentially assessed land is taken out of an eligible use ("deferred taxation"). And, finally, Michigan and Wisconsin require that participants sign up for ten or more years, agreeing to keep their land in farming; in return the participants' state income taxes are lowered ("restrictive agreement").

In general, differential assessment is a very weak method of controlling land use. This conclusion is based not only on the statistical evidence from Ohio, but also on the fact that the temptation of speculating in land and the necessity of retiring from farm-

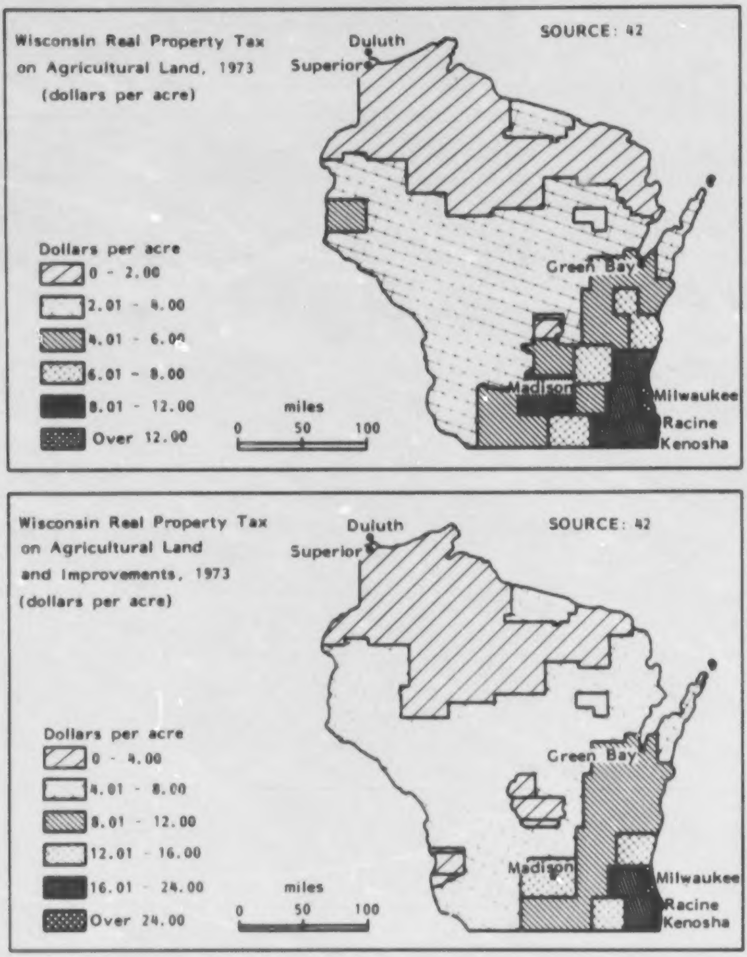
Wisconsin Real Property Tax
on Agricultural Land, 1973
(dollars per acre)
SOURCE: 42
Duluth
Superior
Green Bay
Madison
Milwaukee
Racine
Kenosha
Dollars per acre
▨ 0 - 2.00
☐ 2.01 - 4.00
▨ 4.01 - 6.00
▨ 6.01 - 8.00
■ 8.01 - 12.00
▨ Over 12.00
miles
0
50
100
Wisconsin Real Property Tax
on Agricultural Land
and Improvements, 1973
(dollars per acre)
SOURCE: 42
Duluth
Superior
Green Bay
Madison
Milwaukee
Racine
Kenosha
Dollars per acre
▨ 0 - 4.00
☐ 4.01 - 8.00
▨ 8.01 - 12.00
▨ 12.01 - 16.00
■ 16.01 - 24.00
▨ Over 24.00
miles
0
50
100

Fig. 7.4. Real property taxes in Wisconsin

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ing and putting the land up for sale in the land market are probably far more important long-run considerations in the farmer's decision to sell than property taxes [21, 40].

Obstacles to Land Use Controls

Simply because land use controls can be adopted does not mean they will be. In some areas no conflict in land-related values may be perceived while in others land use conflicts may be resolved in favor of unrestricted development. In many, and possibly most, communities of the Midwest, there may not be much of a conflict over landscape values. Population may be growing very slowly or even declining as in some parts of the Great Plains. Or some growing communities may so highly value the benefits of growth that open space values are perceived to be unimportant [17]. There is in these cases then a lack of a "problematic situation" to induce the adoption of land use controls.

But where urban pressures are strong the values of open space can come into direct conflict with other traditional rural values reflected in unrestricted rights inherent in land ownership which protect wealth and maintain individual liberty. Change thus brings to the forefront fundamental issues in political philosophy.

Controlling land use requires an understanding of the local rural political systems which are typically based upon personal relationships between leaders and citizens [15, 16, 24]. Thus, limitations on land use imposed by a local government will likely conflict with values that one's neighbors hold. (When limitations are imposed on nuisance land uses in rural areas, they are often in the form of sanctions on neighbors.) There is in addition a strong belief in minimal government interference in private decisions, in low taxes, and in low public expenditures, all of which further limit the applicability of land use controls in rural areas. And finally, controls which are imposed at a county or state level may be unpopular because decisions are then made outside the local community. This distrust of nonlocal control may be exacerbated when outside "experts" attest to the community's need to plan for land use control; a need must be seen as of local origin before it is acted upon.

The local political system cannot continually avoid doing something about land use as development occurs, however. New people in the community eventually will have political power and they may want to preserve whatever sylvan or rustic surroundings remain. There are also the problems of providing landfills, and locating apartments, commercial activities, and other land uses that are often perceived as incompatible with low density residential land uses. Decisions on the location of public infrastructure will also influence the eventual development pattern. Unfortunately, semi-rural communities often have staffs inadequately trained to deal with the variety of land use problems that are likely to arise. And governmental recognition of problematic situations may occur too late for land use planning to be effectively utilized to retain open spaces and agricultural activities.

Conclusions

The current resettlement process ongoing in the Midwest is a phase of the longer series of frontier advancement, infilling of bypassed areas, urbanization, and suburbanization. Whether it is an important, long-term stage or merely a disturbance of an equilibrium remains to be seen. If it endures for 25 or 50 years, however, it will greatly affect the midwestern landscape by densely dotting much of the land area with split-offs from farmland and with woodland and lakeside developments of various residential, commercial, retirement, and recreation structures. The western portion of the region will probably see little such alteration while the major pressures will be exerted in the more populous East North Central states and in those areas along the northern and southern margins of the region with important locational amenities.

At a local level, low density, scattered development, typical of some parts of the Midwest (but not, apparently, of areas with rich, productive, expensive farmland) alters the appearance of the landscape, changing it from a rural one to something between rural and urban. In addition to this kind of aesthetic effect there also is likely to be a homogenization of the region. Although the Midwest has a distinctive topography and agricultural pattern that will persist through a resettlement process, regionally distinctive architectural styles (e.g. the "Prairie School") and compact townscapes are being diluted by the sprawl of nondescript dwellings and commercial buildings.

From a functional point of view, the Midwest is the principal agricultural region of the nation, producing about 45 percent of the agricultural products by value on 54 percent of the cropland in 1974. Despite recent increases in yields through capital investments, crop and livestock genetics, application of fertilizers, herbicides, and pesticides, and retirement of marginal farmlands, the next 50 years are difficult to predict with regard to world-wide agricultural supply and demand. Because the basic agricultural resource is soil, the most prudent course of action in the face of uncertainty is to protect the land and limit indiscriminant removal of productive agricultural land for nonagricultural uses.

Pursuit of aesthetic, ecological, functional, or other landscape values is a politically agonizing task, one which is often easier to shrink from than to address. The intensity of this pursuit varies greatly from place to place within the region, in part because of the varying degree of land use conflicts, in part because of local political forces. Direct control over land use is offensive to many people and expensive to others and the diffusion and adoption of these controls from their current loci will be an interesting phenomenon in the political geography of the next generation.

NOTES

[1] The author wishes to thank Ken Bieri, Tom Plaut, Clyde Forrest, John Quinn, and Susan Safanie for their assistance.

[2] The farm population declined 11.7 percent between 1970 and 1976 in the North Central Region [2, Table 1].

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CHAPTER EIGHT

LOCAL POLITICS AND THE TURNAROUND MIGRATION: NEWCOMER-OLDTIMER RELATIONS IN SMALL COMMUNITIES[1]

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The various dimensions of the population redistribution trends of the past decade are unevenly understood. We know a great deal about the scope and direction of the new urban to rural migration, somewhat less about the causes of this turnaround, and least of all about the local effects of small town growth. The regional and community-type shifts involved in the redistribution are well documented, as indicated in Chapters 1, 2 and 3. The reasons for the turnaround in migration are less understood, although Chapter 5 goes far to confirm the previous assumptions that, for the Midwest at least, quality-of-life considerations are more significant than employment factors. But the least examined aspect of the population redistribution concerns the consequences of population increase at the level of the rural community, particularly the effects of inmigration on local politics and government. These effects cannot be easily quantified and generalized. Census estimates and counts, even data from attitude surveys, tell us little about the dynamics of institutional change in thousands of communities.

Certainly one cannot characterize the response of local governments to socioeconomic change as either immediate or automatic. The demands and problems that arise in communities experiencing new growth after decades of decline or stability are seldom met by public officials with quick and effective shifts in public services, regulatory actions, and revenues. Even in the smallest of communities, the response entails a lengthy political process—the drawnout progress of demand, conflict, compromise, and perhaps ultimate decision.

A central element of this process is the interaction of new with established residents. Migrants in growing, small communities are at least potentially the major source of change in public policies and programs. They can disrupt the equilibrium of once-quiet communities, depending on the demands made or expectations held. A common view is that newcomers and oldtimers inevitably will clash over the scope of public sector activity, simply because of the demographic and value differences implicit in the urban backgrounds of the migrants [43]. This view may be based in large part on the suburbanization stories of the post World War II period, in which many villages and open country areas were overwhelmed by the influx of young families from nearby central cities. A contrasting view is rooted in an older image of rural stability and consensus. It suggests that newcomers to a small town are likely to maintain a low political profile, as they seek the social acceptance that comes only with long residence and conformity.

This chapter argues that neither of these two views, the suburban model and the rural pattern, are accurate representations today of political processes in growing small communities. The newcomer-oldtimer theme is still a useful one for understanding how small towns respond to population increase, but it requires adjustment to the features of the current population redistribution. One of these features concerns the quality of life motivation behind much of the migration to rural communities.

What then are the political consequences of the turnaround migration? Three interrelated sets of local impacts are examined in this paper:

1) Varying Patterns of conflict and cooperation between newcomers and oldtimers, as compared to the less complex relationships posed in the rural and suburban models.

2) The types of public issues in small communities which are generated by inmigration.

3) The response patterns of local governments, particularly the conditions that facilitate or impede change in policies and programs.

The generalizations offered here are drawn from a fragmented literature of surveys, case studies and assorted commentaries. Systematic cross-community studies on the topic have yet to appear. Still the available studies compose a rich and provocative literature, with examples from many areas that reflect the national scope of the rural growth phenomenon of the past decade. But, examples from the Midwest are less plentiful than those from other regions, notably the Pacific Coast, Rocky Mountain, and Upper New England areas. Furthermore these studies seem to suggest that the controversies induced by turnaround migration have been less intense in midwestern communities than elsewhere.

Earlier Versions of the Newcomer-Oldtimer Relationship

In political terms the most interesting angle of the turnaround migration is how it upsets some longstanding notions about newcomer-oldtimer relations in small towns. New arrivals today fit in more readily, are less at odds with established residents, and are more likely to participate actively in local politics than the conventional wisdom suggests.

The rural model

That wisdom is based in large part on a familiar image—that rural communities do not easily accept new residents. Every such town has its traditional myth about the length of time required before new arrivals can be regarded as full-fledged members of the community. Usually this is a standard measured in years or generations. It helps of course to be a native of the locality and, in some extreme cases, full acceptance comes only if parents and grandparents were also natives. Expressed in this way the myth is a boastful exaggeration, not to be taken seriously. Yet it carries a hint of accuracy since the new arrival in a rural locality traditionally was absorbed only gradually into community life. He and his family were the victims of a natural suspicion of unwanted change, the fear that they may carry foreign values and ideas that could wreak havoc with local customs. So a form of apprenticeship was required of the newcomer, a chance to learn the community's mores and become a solid citizen.

Perhaps the apprenticeship was longer for participation in politics than in any other area of community life. Certainly newcomers were not asked or encouraged to run for public office because their personal reputations and reliability were unknown, as Barber [2] points out in describing the recruitment of Connecticut state legislators from rural towns. In Massachusetts towns political leaders were continually on the defense against spendthrift newcomers who sought more local services, as Zimmerman [59, p. 43] describes:

> . . .the "natives" whose families have lived in the town for generations feel they have a proprietary interest in the town and regard it as their sacred duty to safeguard the town for posterity against the "newcomers" who are considered to be carpetbaggers or transients. The "natives" may fear that the transitory "newcomers" if elected to town office will initiate extravagent projects and leave the town prior to their completion or foist a diabolical scheme on the town; hence, it is preferable to have the "natives" run the town to prevent a town calamity.

At a more basic level, this defensiveness is directed at recent arrivals who become too critical about local leadership and government. This generalization is confirmed by observations about politics on Maryland's rural eastern shore [16, p. 1[illegible]] and in a small Alabama city [25, p. 18].

The suburban model

By and large, newcomers in these rural communities wanted the benefits of local acceptance. They behaved politically as oldtimers expected them to, not seeking public office, avoiding controversial statements, and otherwise maintaining low profiles. All of this changed with the suburbanization of the 1950s and 1960s. The millions of young families who migrated to metropolitan fringe areas from big cities neither desired the approval of established residents to the same degree nor were in a position to reasonably expect that they could receive it.

One reason is that many of these migrants retained economic and social ties to their places of former residence and they seldom made an effort to establish deep roots in their new communities. In effect, new suburbanites were mobile citizens of the greater metropolitan region more than loyal members of the towns where they lived. They continued to commute to jobs in the central city, visited relatives and friends in other towns of the region, and patronized retail stores wherever good roads and new shopping centers pointed. The suburbanites differed greatly from their oldtimer neighbors in socioeconomic terms. They were younger, had more years of formal education, were more likely to work at professional and white collar jobs outside the community, and had higher incomes. This social distance was further enlarged by the tendency of the newcomers to congregate in their own neighborhoods or subdivisions, rather than living among the oldtimers, a result of the availability of numerous mass-produced housing developments in the post war years.

As ex-urbanites, many of the newcomers quickly became dissatisfied with the quality and quantity of public services. They deplored the ineptness of veteran local government officials in not responding quickly enough to the sudden population spurts in these recently-rural communities. For their part, the officials and other established residents resented the work of the subdividers and the invasions of the city people, especially the expanded governmental activities and higher taxes that inevitably resulted. The exurbanites were not always able or sufficiently interested in local affairs to directly challenge the veteran leaders, given the diversions of their daily job commutes. A number of studies cite the limited political participation and effectiveness of newcomers in these communities when compared with oldtimers [27, p. 20; 40; 58].

There were certain types of issues, however, that motivated newcomers to organize and succeed because of their numbers and aggressiveness in getting appropriate action from local governments. Local "crises" such as polluted wells, attacking dogs, and serious traffic accidents frequently brought angry subdivision residents before the township board of a Michigan suburb in the early 1960s [46, pp. 57-58]. But it was the public schools that stimulated the most persistent interest and activity on the part of the newcomers [11; 20; 26; 33; 37; 57, pp. 186-191]. Carrying high aspirations for their childrens' futures, young parents fought for new buildings, revised curricula, and extracurricular programs. Oldtimers generally opposed the bond issues and tax increases resulting from those demands. As older persons with grown children, they could not justify paying higher taxes for programs that would not benefit them and they were critical of what they regarded as educational "frills."

The newcomer-oldtimer division then was the dominant force in the politics of many suburbanizing communities during and following the period of most rapid growth. The conflict often was muted and underlying rather than openly evident, for the two groups tended to go their own ways, taking part in separate social and political worlds. Community life in the suburban fringe of Columbus, Ohio, is described in these terms:

> Since the newcomer has social contact with the older resident only at certain in-

> stitutional points and, for the most part, does not immediately seek membership or assume leadership in the older institutions, the fringe-area community of the older resident does not quickly become an effective reference system for the newcomer [27, p. 13]. . .contact between the old and new residents through local voluntary association, formal institutions, and semiformal activity is low; hence, no extensive integration of these segments of the population has been achieved on this level [27, p. 20].

Similar descriptions of separate worlds are found in other studies [20, 29, 54]. Politically, newcomers tended to concentrate their energies in a few areas, particularly public education, while oldtimers ran most other public organizations, a control that continued years beyond the point at which they ceased to be the local majority. Dobriner [11] offers an insightful account of the urbanization of a New England village (apparently in the Boston region) during the 1950s. The newcomers quickly infiltrated the local PTAs and took over the school boards, but the old leaders retained their control of the broader institutions of village and town government and the local Republican party. Filling virtually all public offices outside the school system, the oldtimers walked a thin line between giving in to the specific demands of the newcomers because of their voting strength, and protecting the traditional character of the community [20; 27, p. 31; 56, p. 172; 57, pp. 166-170, 178-180]. Political and policy changes in these situations were slow and fragmented.

The New Migrants

Entirely different newcomer-oldtimer relations in rural communities are implicit in the urban-to-rural migration of recent years. Neither the traditional rural model of a mandatory apprenticeship, nor the suburban pattern of separate social and political worlds, is applicable to growing small towns today. To understand the changed politics of these places, we have to know something about the characteristics of the turnaround migration—about people and motives.

The most striking features of the new migration are the noneconomic motives of urban to rural movers. In the telephone survey of movers to nonmetropolitan North Central counties with high rates of inmigration, reported elsewhere in this collection [45], 76 percent of migrants from urban areas listed reasons other than employment for their move. Environmental "push" and "pull" reasons and retirement accounted for a majority of responses. A mail questionnaire survey in 1975 of families recently arrived in Maine, almost all of whom had moved from larger places in other states, elaborated on the push and pull factors:

> . . .for the majority of the immigrants the moves were precipitated by a complex of push and pull forces which were quality-of-life related. The primary push factors were crime, cost of living, "people" deficiencies, air and water pollution, and taxes. The primary pull factors were simple lifestyle-slow pace of life, peacefulness-serenity, friends, relatives in Maine, qualities of the people, general environmental quality, lack of pollution, natural beauty, and the ocean coast [39, p. 301].

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Other less systematic studies point out the pervasiveness of quality-of-life considerations in many parts of the country [3, p. 13; 10; 34, p. 21; 38; 47].

It is not surprising then that the most rapidly-growing rural communities are concentrated in areas known for their national beauty and comfort. Lakes, other shorelines, wooded scenes, varied landscapes, and clean air typify these localities. In the Midwest, they include parts of the upper Great Lakes (northern Michigan and Wisconsin) and the Ozarks, (southern Missouri and northern Arkansas). High amenity areas elsewhere are in the Pacific Northwest, California's mountain and coastal counties, the Rocky Mountains, and the upper New England states of Maine, Vermont and New Hampshire [41, pp. 23-26]. Among others, retirees, including persons who had previously vacationed there, are attracted to these areas. Some migrants to high amenity and other rural areas are also returning to the places of their youth, a trend evident in parts of Appalachia where a combination of family ties, new employment, and inexpensive farm land are incentives for factory workers to leave jobs in the North [22, 36].

In most respects, the new migrants to nonmetropolitan areas are not easily categorized as a single group. Unlike the relatively homogeneous families who moved from the cities to the suburbs a decade or more ago, the small town newcomers of the 1970s are diverse in socioeconomic and value terms. As well as recent retirees, they include much younger dropouts from urban society ("hippies" to the older neighbors), middle class families with school-aged children, and more than a sprinkling of affluent persons [47, 51]. Some retirees have comfortable investment incomes and build new houses on sizable acreages, others live in mobile homes or apartments on limited pensions and social security benefits.

Neither are the new migrants a homogeneous bunch in the political values they hold. A study of a rapidly-growing Oregon community in 1976-77 shows that newcomers "ranged from extreme right wingers to communal hippies" who moved from more urban places for seemingly opposite reasons [19, p. 182]. Three categories of new arrivals are identified:

> One type was attracted by what was perceived to be honesty, candor, hard work, and self-discipline on the part of rural populations as compared to lawlessness, drug abuse, and decay of the cities. Another type was attracted by perceived simplicity, slow pace of living, opportunity for self-fulfillment, and opportunity to get close to nature—as contrasted to the impersonality, stereotyping, and hypocrisy of city life. One type objected to permissiveness of urban life, the other to its regimentation. A third type...included those who came to start over in a different and more pleasant environment after a family tragedy or career setback [19, p. 183].

But they displayed a uniformity in at least one important respect. All had deliberately selected this particular community as their new home and, as the story goes on to show, they participated in certain common efforts to improve the institutions of the community.

After They Arrive: Participation and Interaction

If people move to small towns because of perceived superior living qualities, their later attitudes and behavior are likely to be directed to protecting these qualities. At least this is the assumption behind the following description of recent migrants to Maine:

> . . .the great majority of the inmigrants is highly rurally oriented. As such, they are going to do their best to maintain the rural atmosphere and the natural beauty of the environment which attracted them to Maine in the first place. They are much more likely to be concerned with the preservation of environmental integrity and the slow pace of rural life than they are with economic and industrial expansion. They will resist acts and policies which contravene their value positions [39, p. 301].

Few of the ex-urbanites who moved to the metropolitan fringes in the 50s and 60s probably felt as strongly about their suburban towns. And while many of the migrants to more rural and stable communities in the past probably held similar sentiments about their new localities, they were held in check by the informal constraints on newcomers as well as by the absence of suitable targets for political activity.

Yet it would be misleading to picture all or most rural newcomers today as possessing strong environmental values and acting to promote them, given the comments earlier about the demographic and ideological heterogeneity of the migrants. What can be said about post-migration political attitudes and behavior? We turn to a synthesis of available data about newcomer participation in community matters and interaction with oldtimers.

Participation

Several studies of growth situations in Oregon, California, Colorado, and Upper New England communities describe how migrants begin to participate in local political and civic affairs very soon after their arrival. Especially when issues of community growth are involved, they are not bashful about jumping into a controversy—writing letters to the editor, joining local organizations, speaking out at public meetings, and making their presence known at city council, county board, and planning commission sessions [9, 17, 19, 47, 52]. Newcomers may even be so bold as to seek local public office, and actually win it, as the Maine study cited above indicates [39]. Many of the newcomers had been active in the politics of their former communities, and they are merely transferring civic interests and skills to less urban settings. For others not previously involved, the move to the small town may stimulate new levels of participation because public officials and leaders are relatively accessible.

Low levels of newcomer participation, especially for retired persons, however, are implied in at least one midwestern study. This survey of elderly newcomers to a northern Michigan county finds that one-half of these recent migrants lack regular sources of information (such as local newspapers) about their new community and that their organizational memberships have decreased since migration. While there was little dropoff from previous residences in the rate of regular voting, the study does not specify whether this held true for local as well as state-federal elections [28].

Political participation, of course, is usually a function of socioeconomic status, but there may be some significant deviations from this pattern in the aftermath of small town migration. The case of retired migrants, in particular, defies easy generalization. Elderly newcomers in rural communities desire peace and relaxation, according to some studies, and thus they tend to "escape" from community concerns and problems [6, 28, 51]. Yet as retirees they also have considerable time and loose energy on their hands. Are they as likely to turn out at meetings and campaign for candidates and issues as to spend time fishing and watching television? Perhaps the former bureaucrat or business executive may be more inclined than the retired factory worker to take part in civic matters. The socioeconomic distinction may evaporate, however, when the tranquility sought by all retired folks in a community is perceived to be threatened, as in the development of a tourist economy that increases traffic, noise, and crowds [28].

Relative geographical isolation is another factor that affects the political participation of newcomers. Migrants who chose to live in planned subdivisions with self-contained services, for example, may have little opportunity or inclination to take part in the affairs of the broader community [30, 51]. Social and political isolation is even more severe in the case of back-to-the-land devotees, who take over small farm plots in backwoods areas [22, 44, 47].

Whether personal or institutional, the inhibitions on newcomer participation in small town politics seem far less restrictive today than in previous times. It seems clear that for some newcomers active participation on particular issues is a natural outcome of their initial attraction to the small community. What is not clear from the available case studies are the "who" and the "why"—the kinds of migrants who are most likely to jump into local politics and the conditions that lead to their participation.

Patterns of conflict and collaboration

How do established residents react to such newcomer involvement in local politics? It is no longer possible to point to the inevitable clash between the two groups over public services and other governmental actions. Instead growing, small communities throughout the nation today contain a more diverse set of newcomer-oldtimer relations than assumed by the suburban experience.

Demographic differences between newcomers and oldtimers still persist, although perhaps to a lesser extent than in the suburbanization period. Migrants tend to be younger, better educated, and engaged in more prestigious occupations than longtime residents in rural communities [3, 39, 45]. One exception may involve those places where a disproportionate share of the inmigrants are retired blue collar workers; a study of a rural Michigan township notes that natives as a group were younger and had more years of formal education and higher incomes than new arrivals [15].

The most important finding from the studies of inmigration impacts, however, is that despite demographic differences migrants from urban areas as a group do not necessarily favor more public services nor want more controls on community growth than oldtimers. At least one study—the Michigan township survey reported above—finds that natives actually were *less* satisfied with existing services and wanted *more* improvements than newcomers, a result probably of the predominantly retired character of the latter group [15]. But the major thrust of the various reports is the limited amount of newcomer-oldtimer disagreement over issues of services and growth. Sofranko and associates, in their telephone survey of residents in high growth North Central counties, find only a slight difference between recent migrants and others in the responses to questions dealing with population growth, economic development, and local taxes. In fact, migrants to these nonmetropolitan counties from other *rural* areas were more inclined to support higher taxes to improve local services than either migrants from *urban* areas or established residents [45, figure 7]. Newcomer-oldtimer differences concerning local growth policy are also reported as minimal in at least two attitude surveys of rapidly-growing communities, one in New Hampshire [53] and the other in Wyoming [9]. Support for local government regulation of future growth was more closely associated with land ownership than length of residence in the Wyoming study, with larger landowners (particularly ranchers) less likely to favor controls.

Such limited disagreement over public policies is at odds, not only with the suburban view of newcomer-oldtimer relations, but also with more current assumptions about the political effects of rapid population growth in small communities. It strikes at the belief that, because of their prior experiences and acquired tastes, new arrivals from urban areas are bound to want more public services and more regulation over development than established residents [43]. There are two interrelated reasons as to why this assumption may not accurately reflect the impacts of turnaround migration. One concerns the characteristics of the rural communities which are receiving large numbers of new residents, and the other deals with the characteristics of the inmigrants themselves and their perceptions of their new communities. Sofranko and associates speculate that rural communities have changed greatly in recent years, offering much more in the way of services and amenities and thus narrowing the presumed urban-rural gap [45]. At the same time migrants today are less likely to be critical of their new places of residence because of the factors that attracted them to the small communities in the first place—the perceived superior living qualities of these places. An easy social as well as political adjustment to the new community is suggested by this motivation; the Sofranko paper reports that two-thirds of the urban migrants surveyed said they had not experienced adjustment difficulties. Previous ties with the community help to bridge the urban-rural transition for many new arrivals, as described in an Oregon community where newcomers readily joined local social and religious organizations as well as entering political life [19].

It should not be supposed, however, that the political impacts of newcomers in a small town are minimal just because their majority policy preferences may coincide with those of a majority of oldtimers. The attitudinal surveys which report little variation in views of public issues according to length of residence seldom deal with actual political behavior. The more revealing evidence of newcomer-oldtimer interaction and political change is found in case studies and newspaper accounts of issues and events in particular communities. Most are studies of western and New England communities [9, 17, 19, 42, 52]. With the exception of several accounts of local developments in the Arkansas Ozarks [44, 51], midwestern examples are missing in this case study literature. Growth control issues are involved in most of these descriptions of the political effects of heavy inmigration, with some disputes also concerning expanded public services and representation on governing councils or boards.

It is possible for a few articulate and aggressive newcomers to have a significant impact on the direction of local government, by raising issues, organizing, and defeating incumbent officeholders. Even newcomer-oldtimer coalitions are possible, as noted in the cases of a successful drive to enact an historical preservation ordinance in a Colorado town [17] and of the removal of the longtime elected and administrative leadership of an Oregon school district [19]. In these and other cases, the interests and energy of the recent migrants stimulated previously uninvolved oldtimers to become active. The Oregon study acknowledges the special political contributions of newcomers:

> The very fact that a substantial number of newcomers sought to participate in ongoing social processes created an environment for change. Newcomers created opportunities for change by bringing leadership skills and other social resources into the area. . .Their presence created opportunities for long-established residents to become more independent and assertive [19, p. 184].

Perhaps such conditions are essential to the acceleration of political change in many small towns. Newcomers from urban areas undoubtedly have a fresh perspective and may be more sensitive than established residents to the possibilities of change. The point is that direct newcomer-oldtimer confrontations are not necessary to this process.

Of course such conflicts are still possible, especially where a large segment of a community's migrants have unique lifestyles and ideologies and thus differ visibly from most established residents. One local consequence of the movement of many retired persons to certain rural areas is a polarization of attitudes and actions, as the senior newcomers oppose bond issues and increased taxes for schools and other programs which are supported by younger natives [28, 30, 51].

Sharper conflicts, even physical violence, have been noted in the case of migrants with nonconventional lifestyles, self-styled "alternative lifestyle" persons with back-to-the-land ambitions. One can hardly imagine a greater contrast than between long-haired radicals and conservative neighbors, whether in appearance, dress, daily habits, diet, social relations, or political beliefs.

Despite the efforts of these dropouts from urban society to seek out backwoods areas where their ideas of landed self-sufficiency could be implemented, their arrival in particular locations usually generated social and political tensions with established residents. This is reported in studies of communities in northern California [42, 47], the Ozarks [44, 51], and Appalachia [22]. Most of these studies, however, also indicate a gradual lessening of the conflict after the arrival of the first alternative people, as by hard work and serious intentions they earned the grudging respect of at least some oldtimers. The hippies and straights in some communities actually found that they shared similar beliefs about the proper role of government, an illustration of the subtle links between far left and far right ideologies. In several coastal and mountain areas of California, the two groups recently joined together to oppose the enforcement of county building codes. The newcomers had settled in isolated localities where they constructed homes without indoor plumbing and wiring. The conservative oldtimers for their part opposed, as unnecessary governmental interference in private lives, the attempts of building inspectors to condemn these homes. This unlikely coalition succeeded in bringing the issue to the attention of the state housing commission, which worked out a special category of self-built residences in sparsely-settled areas [1, 42].

Other conflicts may occur where newcomers are relatively homogeneous, reside in separate residential developments, and have little social contact with oldtimers. In California's smallest county (population 900), new migrants are clustered around a ski resort and housing development on the western slopes of the mountains while most oldtimers live on the other side of the summit. Believing that their needs had been ignored by officials at the county seat on the eastern slope, newcomers engaged in a bitter struggle for control of county government and school district offices in the mid 1970s. Oldtimers charged that many of the newcomers were not permanent residents of the area, having illegally registered as voters in order to unseat incumbent officials [47].

Such disputes may be atypical today because of the tendency of most newcomers in small towns to avoid geographical and social isolation from established residents. More so than the new suburbanites of the 1950s and 60s, they join established churches and voluntary groups and live among the residences of oldtimers. Rural communities growing because of net inmigration have also changed, becoming more tolerant of strangers with different backgrounds and becoming more accustomed to change. Thus the newcomer-oldtimer dichotomy may not be the central cleavage in growing rural communities that it was once thought to be. Instead of length of residence, the political divisions today seem to be based on class, education, age, and how one views the world—all characteristics of politics in more urban places.

Issues for Government

Unlike the suburbanites, the new migrants to rural communities tend to be concerned about a wide range of local government programs and policies. Better schools certainly are of major importance to families with young children [39] and much less so to retired people on fixed incomes who worry about higher taxes [28, 51]. But both groups, and other newcomers and oldtimers as well, pay considerable attention also to a great many other types of public issues which are generated by population growth in small communities. Many are not unique to current patterns, having been implicit in the suburbanization of fringe communities, but they stimulate today a greater degree of interest and hence more varied political conflicts. Below is a short inventory of issues common to many growing communities.

Controlling growth

Proposals to put a tap on a community's future population increase or to redirect the location and type of development translate into the specific legal tools used by counties, municipalities and townships to control land use and construction. Zoning was the favored device in the suburbs for protecting middle-class residential areas from other uses and, through large lot minimums, from lower-income and minority families [14, Chpt. 5; 56, pp. 135, 166-167]. Today the issues are more complex and the legal mechanisms more elaborate. Although exclusiveness is still an underlying theme, the debate emphasizes much more the competing values of economic development and community preservation. More attention now is paid to such control mechanisms as subdivision approval, building code enforcement, mobile home regulation, land and fee dedications, open space preservation, sign ordinances, historical zoning and preservation, and building moritoriums. Groups and local governments in some small communities in the 1970s have become more sophisticated about controlling growth, and especially in dealing with large outside development companies, as they have learned about the earlier development experiences of other places [5, pp. 90-91; 34, pp. 23-24].

These issues may not be as prevalent in small midwestern communities as elsewhere, if the evidence of available studies is any indication. In the survey of North Central counties conducted by

Sofranko and associates, substantial majorities of both recent migrants and continuous residents expressed strong pro-growth attitudes. Conclude the authors:

> In general, then, there is widespread awareness of population growth but very little concern about it. . . any more problematic impacts of growth might only show up in second or third order ramifications of the population increase itself [45, pp. 15, 16].

Population increase and development also do not seem to be major issues in three northern Michigan communities, where local surveys also found little support for anti-growth views [6, 15, 31]. By contrast, stronger sentiments for controlling growth and local conflicts over appropriate public policies and practices are noted by attitude surveys and case studies of small communities in other regions—including California [47], Washington state [5], Wyoming [9], Texas [50], Colorado [17], Maryland [14], and New Hampshire [52, 53].

This regional distinction may reflect merely the use of different research methodologies, since all of the midwestern evidence is based on survey data while the reports from the other regions include a liberal sprinkling of case studies which concentrate on specific events and issues in particular communities. Nevertheless, the few survey studies conducted in the other regions do point to relatively strong concerns about growth issues. It is tempting to speculate why these views may be muted in the Midwest. Possibly the difference is due to the earlier appearance and more visible impact of small-town growth elsewhere. Especially in coastal and mountain areas of the West, rural areas began to attract large numbers of urban migrants in the mid-1960s and growth related issues have been prominant in many localities for a decade or more; one example is the controversy over second home subdivisions and other planned communities in the west [5].

Farm-residence conflicts

Ever since city people began moving into open-country areas and small population settlements extended their borders, farmers and newcomers have had difficulty in adjusting to each other. The incompatibilities between farming and semi-urban living include dogs harassing livestock and poultry, trespassing in orchards and fields, and the environmental hazards to nearby residences of chemical spraying. Many of the new migrants who are relatively well-off build homes on large country acreages, with leisure-time farming or ranching in mind. The more serious farmers in the neighborhood hardly rejoice, since the newcomers drive up the competition and increase the price of land and thus bring higher property taxes.

Services

Undoubtedly new migrants from metropolitan areas still expect more from local government than longtime settlers, although they may be more sensitive than in the past to the opposite needs and values of other residents. The expectations of other rural residents have also been raised [12, p. 37], so that all want paved and well-maintained roads and streets, accessible solid waste disposal sites, and quickly-responding fire fighters. The most significant impact of new inmigration on public services then may not be the absolute increase in demand as much as a diversification of the demand. There are added disagreements over priorities and scarce resources as small town populations become more heterogeneous. The disagreements may be as serious among different groups of newcomers as between newcomers and oldtimers. Highly-educated expatriates from the city with cosmopolitan interests want better public libraries and cultural facilities [39], retirees are especially interested in good roads and health care facilities [28], families with youngsters care about school and recreation programs [19, 39], and counterculture persons just want to be left alone [42].

Finance

Often the issue over how to fund a particular service is more important than the question of whether it should be expanded or even undertaken by local government in the first place. Who benefits and who pays? Increasing property taxes on a communitywide basis is only one option for some communities, which for particular services can turn to other revenue sources such as special assessment zones, user fees, and federal and state aid. The often unpopular property tax, however, is the exclusive revenue source for many public functions. In growing small communities the relative burden of the property tax is usually a hot topic. Because new homes seldom yield tax revenues equivalent to the cost of receiving services, residential growth generates some political support for commercial or industrial development, adding further to the development-preservation conflict.

Mobile homes and second home developments are specific issues in some communities. Mobiles are opposed by some officials and owners of conventional homes because in many states they are classified as vehicles and cannot be taxed as residential property [7, p. 5]. Recreational or second home subdivisions were regarded as a major bonus by many jurisdictions in vacation areas when first developed, because they gave the promise of increased property tax revenues with minimal service requirements. As improved lots they could be taxed at much higher levels than unimproved land, while few governmental services were required for vacant lots or seasonally-occupied homes. But the bonus has turned to a problem in recent years [5]. The cost-benefit ratio for many local governments has been reversed, as the "second homes" have been turned into year-round residences for many migrants.

Representation and organization

Other major issues in small communities involve the control and processes of local government rather than its products. As suggested by the Oregon case cited above, newcomers to a community may be concerned about how elected officials represent their constituents [19]. Encouraging citizen participation and being open to new ideas are the concepts that are expressed, but the real target often is the established power structure. Most other public issues are closely tied to those conflicts, since the outcome of a struggle for power and governmental office can change substantive policies and programs. In some communities the issue of control is put in the more formal terms of efficiency and management. Newcomers with previous experience in business and federal or state government, who deplore inefficiency and incompetence in local government, are likely to advocate reorganization and professionalization. The favored reforms include the employment of fulltime chief executives and expert planners, and the consolidation of departments.

The Response of Local Government

How do governments in small communities respond to these issues of growth? One quick answer is not at all, or not very well. Among all institutions in rural places, local governments have the reputation for being the most conservative and the slowest to react to change. The evidence of tradition is at hand. Elected officials ordinarily prefer the status quo because it is the safest course in local affairs. Adopting new policies, expanding programs, and raising taxes are never comfortable actions in the small and homogeneous community, where serious political conflict is feared because it is unmanageable and damaging to personal relations.

Opportunities for change

These are traditional characteristics, however, and possibly no longer applicable in many of the communities that have been affected by the population trends of recent years. If the new migrants are as interested in their new communities and as politically active as suggested earlier, then they are bound to speed up the process of governmental change. Issues come to the fore more quickly and are harder to suppress, demands for change are more skillfully presented, and official actions are more closely scrutinized by citizens. If persuasion and argument do not bring about change there is always recourse to electoral competition, an apparently new development for some once-quiet communities. With such new activity, political conflict becomes respectable and thus broader participation and more outspoken positions are possible.

Other recent trends also provide the opportunity for policy and programmatic change. Rural local governments are no longer as impoverished, either in revenues or expertise, as once believed. Federal and state aid programs adopted in the past decade or so have been a bonanza for many jurisdictions. The general revenue sharing program has been particularly beneficial, since these federal funds flow automatically to all general-purpose governments—municipalities, counties, and townships. For small communities with sewage and water supply problems, either because of new population growth or pollution, there are the "clean water" grants available from federal and state EPA agencies. Finally there are numerous sources of technical assistance for small town governments, including regional planning agencies and state departments of local affairs. The excuse that a new venture cannot be undertaken because local officials lack the resources or the knowhow is much less legitimate today than in the past.

Impediments to change

There are also aspects of population growth in small communities that work in the other direction, as impediments to effective governmental response. Many of the issues associated with growth seemingly defy solution. The problems faced by local officials would be relatively simple, if all could be handled by building new public works or expanding existing ones. Once a funding method is determined, the improvement of such a basic public facility as a street, water system, or sewer disposal plant becomes a relatively noncontroversial engineering and construction matter. The most serious issues in growing towns, however, are not as amenable to one-time solutions. They are persistent divisions because they involve the basic relationship of governors and the governed. One source of ongoing conflict in a changing community is the effort to acquire political power and hence control of local government. Another is the daily routine of government, particularly those activities intended to regulate private behavior—law enforcement, land use and building controls, enforcement of health standards, etc. Because they involve personal interactions and considerable discretion by public officials, such activities contain the seeds of serious conflict. Regulatory programs that rely on informal understandings and personal favors no longer work in rapidly-growing communities where many citizens are strangers and a more objective approach is demanded [48].

Much of the nonmetropolitan population growth of this decade has occurred in unincorporated areas, another obstacle to effective local government action. As of yet the extent of this trend is unknown, but there is a strong impression that many—if not most—of the new migrants have chosen to live outside the boundaries of cities, villages, and other incorporated municipalities. The bulk of their public services thus come from county governments and, in a few midwestern and other states, township governments. It is relatively expensive to deliver services to dispersed populations, but a more fundamental obstacle in unincorporated areas is the limited capacity of most rural county governments to deal resolutely with both the regulatory and service implications of rapid population growth and especially to provide urban-type programs. Partly this is due to the attitudes and governing styles of county decision makers. Partly it is due to the traditional role of county governments as administrative subunits of their states for such functions as courts, recordkeeping, and welfare, and as providers of minimal services to widely-scattered populations. In 1977 far less than half of all counties nationwide under 25,000 population maintained park and recreation programs, had fire departments, or had zoning programs [35], activities which along with water and sewage disposal systems are common in most small municipalities. Far fewer county governments than municipalities of comparable population size employ managers, other chief executives, and professional planners [8, p. 92; 21].

Conclusions

Because of new inmigration and population increase, rural communities in many parts of the nation are undergoing varied and probably unprecedented political changes. The newcomers from urban areas are largely responsible. In their interaction with established residents, they contribute to change in ways unanticipated by the earlier rural and suburban models of newcomer-oldtimer relations. On the one hand, turnaround migrants are far less restrained from participating in the civic affairs of their new communities than assumed by the traditional view of small-town conformity and social acceptance. On the other hand, current newcomer-oldtimer relations in growing towns are not as directly conflictual as posed in the suburbanization story.

Instead, the studies summarized in this chapter point to a variety of political scenarios. Recent migrants and established residents in some situations join together to achieve common goals. The role of the newcomer in these coalitions frequently is to stimulate the awareness and activity of others. In other cases, some newcomers and some oldtimers may come into conflict on particular issues such as the disputes relating to age, life-style, and locational differences. Length of local residence *per se* is not so much the basis of these conflicts as are the more basic distinctions of socioeconomic status, age, and ideology.

Whatever form taken by the newcomer-oldtimer relationship, there are major impacts on the issues and practices of local government. Migrants from urban areas raise the level of conflict in a small community, but they also are providing some of the energy for reaching solutions to public problems. The heterogeneous mix of migrants—retirees, younger middle class families, back-to-the-landers, etc.—means a diversity of concerns. Some newcomers and oldtimers alike pay special attention to roads and health care facilities, others look to school programs, and still others are concerned about public controls over development. Overall there are the questions of financing expanded services and representing newly-competitive interests in government. These are serious challenges for small-town governments which have the reputation of resisting demands for new policies and programs. But the traditional barriers to governmental change may be crumbling in many growing communities. Pressures for changed policies and programs are harder to suppress or ignore where the number and activity of political participants is on the increase, and where opposing viewpoints are more openly and aggressively presented.

These generalizations may be tempered, however, by regional distinctions. The political effects of turnaround migration are not as apparent in the Midwest, as in other regions which have concentrations of rural communities experiencing high rates of inmigration. The North Central states show little evidence so far of the kind of newcomer activity and prevalence of growth-related issues which have been noted for particular communities in the Far West, Rockies, and Upper New England areas. Possibly this is a result of uneven data. Relatively few studies—and especially case studies—have been published so far which examine the political effects of growth in midwestern situations. Attitude surveys offer few insights into how local political systems and governments respond to growth. To understand the dynamics of growth, one needs to probe deeper into the interaction of issues, people, and structures over time.

NOTE

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CHAPTER NINE

AVAILABILITY OF RECENT DATA ON MIGRATION AND POPULATION DISTRIBUTION: MIGRATION ESTIMATION AND POPULATION PROJECTION PROBLEMS

Laurence S. Rosen

Introduction

Estimating the patterns, composition, and volume of migration to project the populations of nations, states, or other large areas is exceedingly difficult and time consuming. For smaller areas, achieving these ends is almost impossible. Even with more modest goals, the difficulties encountered appear to increase geometrically as the size of the population to be projected decreases. Yet the need for population information is growing faster at the local level than at any other. An expanding number of programs and an increasing amount of money ($30 billion in federal funds in fiscal 1975 and more than $50 billion now) depend on information regarding the projected size and, in some cases, the composition of the population to be served. A recent Congressional study identified 107 federal programs in which population information is required for allocating funds [33]. In Michigan, a study conducted by the state's Office of the Budget found that each of the 19 executive departments uses census figures, population estimates, population projections, or, in some cases, all three in conducting their regular activities [62].

At the county and municipal levels, the growing need for statistical information is also great. As federal and state assistance programs grow, so does the need for the current or projected population figures on which the need-demand analyses, estimates of target clienteles, and program evaluations depend. Getting, using, and renewing grants are, of course, at the heart of many of these activities. In addition, the trend toward planning at the local administrative levels has spurred the demand for and use of demographic and other statistical resources. The eagerness with which updates to the revenue-sharing figures are awaited by local officials illustrates these points. General planning activities, especially in the rural areas of the Midwest, have also promoted the need for ever more extensive and detailed local population figures and projections. During the 1970s, the long decline of population in the nation's nonmetropolitan areas was reversed [2, 14], particularly in several of the Midwest's rural "high amenity" areas such as the upper Great Lakes [21] and southern Missouri [6]. As Fuguitt and Beale indicated, the North Central Region, in common with the nation as a whole, has entered a period of greatly reduced growth of its major metropolitan areas and of largely unpredicted demographic revival of much of its nonmetropolitan territory [15, p. 20]. How long this will last is unknown, but its effect is already significant, and none of us has ever seen its like before.

This chapter provides an overview of available population projection techniques which may be useful within the context of increasing local demands for better and more extensive projections, and in light of recent shifts in familiar patterns of population growth and dispersion. Special attention is paid to the problems associated with acquiring and/or estimating migration data and their use in these projection models. Where appropriate, illustrations have been drawn which reflect the specific techniques employed to track and project the recent movement of a small but significant part of Michigan's population to the state's sparsely populated northern counties.

Population Projections

The techniques employed in the production of population forecasts or projections[1] fall largely into three general categories: arithmetic and ratio techniques; cohort-survival or cohort-component techniques;[2] and, economic-based techniques.[3] Specific applications of each of these approaches have been employed to prepare population projections at the national level and at some subnational levels as well. However, because of the nature and availability of the data required, the assumptions employed and the techniques themselves, specific applications of each approach are not suitable at all levels and, in some cases, are totally inappropriate.

Population projections for the largest entities—the nation, states, multi-state regions, multi-county areas such as SMSAs, economic areas, and so on—are appropriate subjects of any and all available techniques. The Census Bureau has successfully projected the population of the nation by age, sex, and race for several years with a modified cohort-component technique [56]. This general approach has also been used to project the population of several states, including Connecticut [7], Arkansas [44], Kentucky [5], and Nebraska [47], among others.

Econometric approaches have also been widely used for making nationwide, state, and regional projections. Perhaps most well known are the 1972 OBERS[4] projections [39] for the United States, its economic regions, SMSAs, states, water resource areas, and so on. Other large-scale models which treat population projections from a labor-market perspective include the National Planning Association model [31], the Curtis Harris model [23] used by the Southeast Michigan Council of Governments (Detroit, Wayne County, etc.), the Arizona Trade-Off Model, ATOM-2 [1], Idaho's IPEF73 model [24], the Battelle-Columbus DEMOS model used in Kentucky [5] and elsewhere, the Illinois model [25], and numerous others. Also, there are a few cases of large-scale extrapolation projects, although these are relatively unusual. Newling's [38] New Jersey projections based on the derivation of critical population densities for minor civil division (MCDs), Isserman's [28, 29] projections for Illinois counties, and MacLeod's [32] curve fitting experiments in Ontario stand out as the few recent attempts from this general perspective.

At the other extreme, projections for very small areas—townships, villages, census tracts, zip code areas, and even sparsely settled counties—cannot be prepared using cohort-component or labor market/econometric techniques. Base or trend data in sufficient detail are simply not available for these levels. As a result, various arithmetic extrapolation techniques or ratio methods tied to some higher level projection or control total are used for small area projections even though these techniques provide little or no data by age, sex, or other details [36]. In Michigan's sparsely settled Upper Peninsula, for example, population projections for MCDs in three counties were prepared to meet water quality planning requirements (EPA 201 and 208 programs) by averaging the results of five different extrapolation techniques [12]. No alternative was available in this case as most of the townships in the region's three counties contain fewer than 1,000 residents; in 1970, two of the townships had fewer than 100 permanent residents.

In between these extremes lies the area of greatest need and greatest opportunity for detailed population projections for local planning, policy, programmatic, and evaluative purposes. This is the level of all counties, municipalities, and other minor civil divisions larger than, approximately, 10,000 population. At this level local planners and public officials regularly need detailed census, estimate, and projection figures for local housing, transportation, environmental, land use, and other planning projects. Although many of these local projects are often subsumed under regional or state-wide plans, federal regulations requiring local input and an increased desire to allow for local variation by public officials completely legitimate and justify the development of local data sources and products. In addition, extensive and detailed information from the decennial census, from official estimate updates and revenue-sharing figures, from vital records, and from other symptomatic indicators, are usually available at this level. This availability allows the application of the cohort-component approach which, for counties, is often the most appropriate approach available.

Econometric or labor-market models are usually inappropriate for counties as they require additional data on employment and unemployment which may not be available, or may not be sufficiently detailed or current. Secondly, the output of these models often does not provide sufficiently detailed information of age, sex, race, marital status, and other population characteristics needed for local planning, programming, or grants efforts. Furthermore, crudely developed linkages between the economic and demographic aspects of the model also often lead to simplistic demographic results [43]. Although economic variables have usually been useful in explaining the historical patterns of population growth and migration in the United States and elsewhere, projections of migration made on the basis of known economic determinants have not been notably consistent nor particularly successful. "However elaborate these labor-market approaches may seem, the present state of the art is primitive. More research, using better data, will be needed before the approach can demonstrate superiority over the purely mechanical demographic approach now in use" [37].

The cohort-component approach, unlike the others, lends itself to the qualitative assessment of the distinctive local forces which affect population and which are distinguished, according to Morrison [36, pp. 49-51], through one's "appraising eye." The limited scope of projections prepared for local areas enables the planner, researcher, or official to use his or her valuable personal knowledge of local social, economic, and cultural trends in preparing and evaluating these projections. In discussing the need to account for the idiosyncratic nature of the local area, Price [46] asked a friend at the Census Bureau how he would make projections for a single specific area, if he was requested to. "His response was that he would live there for three months and *then* make his projections" (emphasis added).

The alternative lack of attention to local conditions can lead to implausible and even useless results. In one case, a lightly populated rural county in northern Lower Michigan which had experienced an exceptional rate of growth in the early 1970s was projected to increase by more than 1,500 percent by the year 2000. Lacking a sufficient economic infrastructure to sustain continued growth at the early 1970s rate, regional planning officials were hard-pressed to take these projections seriously. The individual responsible for the projections freely admitted sacrificing attention to local conditions in attempting to build a model suitable for use in a variety of places and situations. However, when published, the projections for this particular county were specially marked to indicate the general lack of confidence in the figures and, presumably, to warn the reader that the figures might not be suitable for use in local planning efforts.

In effect, then, useful and reasonable population projections cannot be made for local areas without considering local conditions. In turn, these conditions cannot be known without some reliance on local informants who are observant, knowledgeable, and realistic. Of the three basic approaches to population projections discussed in this paper, the cohort-component approach is the most flexible and can most easily incorporate this sort of qualitative information.

The Cohort-Component Approach

"Demographic forecasting. . .requires three qualities: historical perspective, current information, and a sense of humor" [36, pp. 44]. It may also require some manual dexterity. No projections technique currently available will prove to be reasonably accurate for more than a few years into the future (except fortuitously) regardless of the complexity of the model, the extensiveness of the input data, or the theoretical sophistication of the assumptions which are employed. Therefore, for projections more than a few years into the future, you may as well throw darts at a map.

Demographers and others have a good track record on projections only when population change is relatively stable and may easily be trended. During these times, past events are really good predictors of the future course of demographic trends. As noted earlier, however, the changing trends in population growth and distribution, as well as changes in the patterns and attitudes towards fertility, indicate that these are particularly difficult times for those involved in population projections activities. Because the cohort-component technique deals with each of the components of population separately, and also accounts for the recent trends in each component without requiring unconditional adherence to these trends, the approach is highly recommended for local projections activities, even in demographically precarious times such as these.

The basic premise of this approach is that population change is the product of diverse demographic influences on different segments of the population over time. Thus, population is forecast by considering the components of population change (births, deaths, and migration) as they affect the characteristics (such as age, sex, and race) of clearly identified population cohorts over specified time periods.[5] This approach is generally expressed in the familiar formula:

$$P_{t+i} = P_t + B - D \pm NM$$

where P is population, B is births, D is deaths, NM is net migration, t is base time and t + i is some future time for which the projection will be made.

The simplest technique within the general approach is the cohort-survival technique (see footnote 2) developed by Hamilton and Perry [22] for projecting the population in small but geographically consistent areas. In this technique, the growth (migration) and survival (mortality) of a cohort between recent decennial censuses are considered together and are jointly assumed to indicate the continued rate of growth for cohorts in successive time periods. Arithmetically, this approach is illustrated as follows:

$$\frac{P_x^{t+1}}{P^t_{x-10}} = \frac{P^t_x}{P^{t-1}_{x-10}}$$

where P is the population, t is the most recent decennial census year, t+1 is the next decennial census year, and t-1 is the decennial census preceding the most recent one; x is the age group of the cohort, say 30-34, and x-10 represents the same group 10 years earlier when it was 20-24. By adding some means for projecting births, the aggregated product for all age groups provides a projection for the total population of a designated area. In spite of this technique's simplicity, or perhaps because of it, it has not been widely used and rarely appears in the projections documents prepared by numerous state, regional, and local agencies. Irwin [26, p. 18] attributes the infrequent use of what he calls the "cohort-change" technique to the inability to tease-out and work with the distinct impacts of migration and mortality. This technique, therefore, is not completely flexible and, as noted earlier, flexibility is crucial to the success of local population efforts.

In current practice, separate consideration is made for the impacts of fertility, mortality, and migration upon the base population and the projected populations. The base population is usually the most recent decennial census figures for the local areas. The survival of the base population, the addition of projected births or birth rates, and the impact of migration on each cohort are aggregated to reflect the passage of the entire population through a specified time period. The projected population is then used as the base for the succeeding projection cycle. The calculation of each component's contribution, however, entails distinct problems and considerations.

Births

Because of federal and state regulations, birth statistics for counties, and often, smaller areas, by age of mother, are available throughout most of the United States. Once these figures are examined and the historical trend of births is established for the child-bearing population (women, usually in five-year age groupings, 15 to 44 or 10 through 49 years of age), age-specific fertility rates (ASFRs) or a general fertility rate (GFR) may be extrapolated and applied to the projected child-bearing population. As an alternative, projected rates may be tied to other sources of information such as the rates projected for the state or the nation in another projection series. The historical ratio of local rates to state or national rates may be held constant during the course of the projection or the differences may be gradually adjusted so that they diminish or disappear over time. In fact, any assumptions about the future may be used to project fertility.

In Michigan, for example, the latest state population projections series [49] held 1975 county ASFRs constant over the course of the projection under two assumptions: fertility rates would not likely fall from current low levels nor was an impending upturn in fertility foreseen. By comparison, Goldberg's [17] county population

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projections for the Upper Great Lakes Regional Commission employed "substantive" assumptions derived from the Easterlin hypothesis[6] regarding the upcoming "marriage squeeze" and concern with the relative ease of entry into the labor force in the future. These equally plausible assumptions resulted in higher fertility rates and correspondingly greater numbers of births for a longer period of time than in the state's projections series.

Deaths

Deaths occurring within each of the cohorts may be determined by applying national census survival rates (NCSRs) to appropriate age and sex cohorts; alternatively, age-sex specific survival rates may be calculated from locally generated life-tables and applied to the cohorts as appropriate. As it is generally assumed that mortality rates are likely to remain stable in the future, projections of mortality may be determined by applying these rates to appropriate cohorts uniformly at all future times. It is important to note, however, that NCSRs include a correction factor for net census undercount. For local areas, this factor requires the user to assume that mortality and census undercount for the local area are both identical to those factors for the entire nation [27, pp. 39-40]. As undercounts are believed to vary considerably by age, sex, and racial grouping—and, thus, by geographic area as well—it may be more advantageous to assume that mortality rates vary from place to place and that undercounts will remain fairly static over time.

The use of survival rates calculated from life-tables developed for states or even smaller areas are particularly advisable for those areas in which the elderly are a prominent or disproportionate segment of the population. Research in Pennsylvania demonstrated that life-table survival rates among sub-state regions differed significantly from national and state-wide rates [16]. More importantly, it was shown that survival rates among the elderly varied even more from place to place than did those among younger people (under 50 years of age). As there are several areas within the Midwest in which relatively high concentrations of the elderly may be found—including the Ozarks and the Upper Great Lakes retirement areas, rural areas of the High Plains which have experienced drastic outmigration of young people, and urban areas containing large concentrations of the non-white and poor elderly—the use of area-specific life-table survival rates are highly recommended.

Migration

Although it can undoubtedly be argued that demographers should not attempt to project migration until the means of assessing present patterns and trends in migration have been substantially improved, real life policy problems do not permit rigorous adherence to such an aim. Because population projections frequently serve as a frame of reference for decision-making—and indeed, may condition the outcome of results—it is a first priority that projections be made [51].

Migration is the most volatile and, therefore, the most significant element in local population change. Its differential impact on diverse age, sex, and racial groups is significant, and it often has some additional impact on fertility and mortality. In most cases, therefore, migration is the critical component in local area projections. Unfortunately, we do not understand migration very well, especially with regard to the age and sex patterns that may exist at the local level, and our projections techniques do not deal with migration data very well either [43, p. 18]. These problems, however, are in large measure derived from the migration data available and their suitability for use in the projections models we devise.

Gross Migration

Any projection model which explicitly incorporates the migration component must begin with historical data detailing the course of migration locally during the immediately preceding five or ten years. Accurate and direct measures of gross migration flows by age, sex, and other cohort characteristics for the geographic areas to be projected allow greater understanding of the underlying in- and outmigration impacts on local growth within the context of known social, cultural, and economic trends. This knowledge, in turn, promotes greater awareness of the foundations of the present population structure and may contribute realism and reasonableness to the projection of the migration component. It is increasingly recognized that migration does not respond directly to a simple economic "push-pull" model. Streams of inmigration to a locality, for example, are almost always accompanied by streams of outmigration from the same place. Also, the magnitude and direction of these streams are neither uniform nor even necessarily similar for all age, sex, and racial groups within the designated area [36, pp. 51-54]. As an example, the 43,000 net outmigrants from Cuyahoga County (Cleveland), Ohio, between 1965 and 1970 were the product of both extensive outmigration (237,000) and almost as extensive inmigration (194,000). Similarly, 33,000 people aged 20 to 24 and 33,000 aged 25 to 29 moved into the county between 1965 and 1970. However, 39,000 aged 20 to 24 moved out for a net loss of about 6,000 in that age group while only 28,000 aged 25 to 29 moved out for a net gain of about 5,000 residents among the older age group [55]. When available, detailed figures such as these add great depth to our understanding of local population change. At a minimum, such figures provide a check on local perceptions of population change and migration in the recent past and upon local expectations for migration behavior in the near future.

Because the United States does not have a central population registry such as those found in Scandinavia and the Netherlands, direct sources for detailed gross migration data are limited and are not always suitable for local population analysis. Nonetheless, there are three fundamental sources: 1) the results of the migration question on the decennial census of population; 2) the records of the Internal Revenue Service and, in states which levy an income tax, state tax records; and 3) the Social Security Administration's Continuous Work History Sample (CWHS).

The 1970 Census migration question was based on a 15 percent sample; the results provide information on the amount of migration and considerable detail on the characteristics of in- and outmigration for relatively large and intermediate size areas such as states and metropolitan areas of 500,000 population or more. For smaller areas, use of these data is often quite expensive, difficult, and extremely precarious, especially for the small population areas where sampling variation is likely to be very high. Also, by the time they are published, these data are often out of date. The gross migration flows for 1965 through 1970 which were used earlier to describe the dynamics of migration into and out of Cuyahoga County, for example, were not published until mid-1977. Also, as these are sample data, they suffer the problems associated with coverage and nonresponse. In addition, the structure of the question (which asks where the respondent resided five years earlier) cannot account for multiple moves within the five years nor can it account for those migrants who move and then return to their original place of residence during the interim. Regardless of these caveats, however, when dealt with appropriately and cautiously, these data can be quite useful.

Other direct sources, such as state and federal income tax records, also suffer from sampling problems, but more importantly, they are not available to the general public regardless of the precautions that might be taken to maintain confidentiality.[7] Access to state tax records would, within certain limitations, allow tracking of individuals and families who remain within the same state from year to year. Such data would provide invaluable aid in modeling and beginning to understand intra-state migration flows, if they were available. On the other hand, the SSA's Continuous Work History Sample is available and does allow tracking of individuals who have a Social Security number and who have worked in covered employment. Unfortunately, although some information about the individual's characteristics may be garnered from the original application for a Social Security number (Form SS-5), extensive detail such as is found in the census is not collected. Furthermore, detailed characteristics are not updated. More importantly, the sample records only changes in the place of employment, not in the place of residence. Thus, in a 1970 study [54], it was discovered that migration estimates derived from the CWHS greatly exceeded those from the Current Population Survey. Much of this difference was the result of

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individuals crossing state boundaries to change employment where no change of residence could be discerned. This phenomenon is particularly easy to understand in large metropolitan areas which straddle state boundaries, such as St. Louis, Kansas City, or Omaha. Most important, however, is that the sample drawn—even the more recent ten percent CWHS—is simply not large enough to be reliable for determining historical patterns of migration below the SMSA level. And while we may acknowledge that much of the population movement from county-to-county and place-to-place within a metropolitan area may not represent the fundamental change we often associate with the concept of migration, local planners and officials must nevertheless be able to track this movement in order to deal with their own locally important problems.

Detailed gross migration figures from the census are for a five-year period (1965-1970) and are convenient for use with the five-year projection cycle regularly employed in the cohort-component approach. These figures, or rates derived from them, can be projected for the local area by extrapolation or as a ratio of projected migration or growth of some larger area. For example, Census Bureau projections for sub-national areas by age, sex, and race utilized characteristic-specific *rates* of outmigration to create a pool of projected outmigrants. By extrapolating each local area's historical *proportion* of total inmigration from this pool, inmigrants and outmigrants were balanced nation-wide [42, pp. 197-198; 53]. Pittinger [40] used a similar technique to project the population of the Genessee-Finger Lakes Region in upstate New York. Here, the *ratio* of regional inmigrants to the U.S. population in 1970 was held constant and applied to the changing *projected* total U.S. population through the life of the projection. Similarly, the *rate* of outmigration was held constant and applied to the region's population in successive projection cycles. Inmigration increased as the total U.S. population base increased, and outmigration increased (but at a different rate) as the region's population grew: over time, the difference between outmigration and inmigration decreased, and the *net* pattern of inmigration to the region declined in magnitude. However, while these figures were useful for a metropolitan region of considerable size, the lack of comparable figures for individual counties dictated Pittinger's development of his *modal* patterns of *net* migration rates which were controlled to adjusted region-wide projections [41; 42, pp. 187-194]. Thus, although gross migration flow data and the approaches which use them appear to comprise a promising new direction for sub-national and even sub-state projections, our concern with even smaller areas indicates that consideration of directional (gross) migration flows by local planners and officials for projections purposes is not yet feasible.[8]

Net Migration

The main and, in practice, more frequently used alternative to directional migration flows involve indirect or net residual migration techniques. Net residual migration may be derived from recent decennial census figures by substituting the appropriate measures in the following equation:

$$NM = (P_t - P_{t-1}) - (B - D)$$

That is, the net migration for a place (assuming no boundary changes) between two recent censuses, say 1960 and 1970, is calculated by determining the over-all change in population size from one census to the other and then removing that portion of the change which may be attributed to births and deaths. The result, or residual change, is assumed to be the product of migration. For cohorts above the age of ten at the time of the second census, only mortality need be considered in addition to over-all change; for those aged 0 to 4 and 5 to 9, however, births recorded for the second and first halves, respectively, of the preceding decade must also be accounted for. In all cases, migration rates may be calculated from the net migration figures.

The two standard techniques of this approach differ mainly in terms of the mortality component. The Vital Statistics approach employs the recorded births and deaths occurring among the residents of the specific projection localities. Using these records involves some potential errors, although the major problems associated with the technique are the accuracy of the base census figures and interaction of vital events with migration. In the first case, census enumeration errors, especially undercounts among young children, often contribute to an over-estimation of migration among teenagers 10 years later. The difference between the undercounted population aged 0 to 4 in 1970 and the more correctly counted population aged 10 to 14 in 1980 will be attributed to migration while, in actuality, some of the difference, even all of it, could be due to greater accuracy in counting 10 to 14 year-olds. In the second case, the deaths of migrants who have entered the projection area between censuses can lead to error. Migrants who enter an area following one census and who die before the following census are never recognized as migrants. Their deaths are attributed to the base population, thus inflating mortality in the base population while leading to an understatement of the actual in-migration to the area. Because of these errors, Pittinger relates that the results of the Vital Statistics technique are almost always used to estimate net migration for a "total" group—i.e., the total population of an area, its racial groups, or sex groups—without regard to their age distribution as census enumeration problems are minimized when all ages are aggregated [42, p. 23].

A good substitute for mortality records are survival rates. If available, survival rates derived from life-tables calculated for the local area are valuable resources (see Gillaspy, *et al* [16]) although they do not usually take into account undercounts or other census enumeration problems. The use of life-table survival rates do, however, eliminate the distortion resulting from the mortality of migrants into the projection area. Identical with this technique is the Census Survival Rate Method, which employs survival rates calculated from decennial census data for the entire nation. These rates include corrections for census enumeration problems but their use implies that enumeration problems and mortality experiences for various age-groups are uniform throughout the entire nation. Again, as Gillaspy's research and the experience of many local planners and officials have shown, mortality rates in local areas often do vary considerably from state or national averages.

For regional, state, or county projections detailed by age, sex, and, where appropriate, by broad racial categories, neither alternative technique need actually be attempted as net migration figures and rates are published. Beale, Bowles, and Lee [3] computed residual net migration flows by sex and race for ages 0-4 through 75 and older for the decade 1960-1970[9] through use of the National Census Survival Rate method adjusted for census enumeration error. The Vital Statistics approach was also used to derive net migration totals by racial category for counties; these figures were used as control totals to which the preliminary net migration figures were adjusted. Net migration rates were calculated for the survived 1970 population or, for the younger ages, for the survived population plus recorded births. These figures are generally considered the best available at the present time and are highly recommended for use as base data for county-level projections.[10]

Net migration figures or rates may be held constant or adjusted mechanically to meet some reasonable assumption of the projection model. This use of residual figures has been common in those states where the cohort-component model has been employed to project the population of counties. In Oregon [34], although *gross* migration streams were used in developing a state-wide projection, only residual *net* migration was available at the county level. The net residual migration *rates* for each county were systematically diminished over the years so that by the year 2000 the county net migration rates were approximately 20 percent of the 1970-1975 rates. In Wisconsin, the projections series initially held 1960-1970 net residual rates constant for the entire projection period [63]. Later, they were adjusted to reflect migration trends in Wisconsin during the early 1970s. In Rhode Island, 50 percent of the most recent net migration figures for the state were held constant and sub-state projections were adjusted to these state control totals [52]. In Arkansas three different assumptions were employed in developing projections for the state's eight regional districts: one held 1960-1970 net migration flow constant for 20 years, another reduced the 1960-1970 net rate by 50 percent over 20 years, and the third was a zero net migration model (natural growth model) employing no migration flows or rates whatsoever [44]. The projections for the state's eight regional districts, after adjustment to account for projected civilian labor force participation, served as control totals for the county projections. For counties, 1960-1970 migration was adjusted to fit the 1980 regional totals [45]. In Michigan, one state agency's attempt to produce population projections during the early 1970s incorporated the application of 1960-1970 migration flows to base data without any adjustment whatsoever; the resulting figures were accompanied by the caveat "although primitive, this methodology is used by default; i.e., for the lack of any *validated* alternative methodology..." [35]. Net migration flows or rates may also be trended or extrapolated arithmetically. In Ontario, MacLeod systematically fit linear, parabolic and Gompertz functions to the net residual rates compiled for several preceding intercensal periods in order to project these rates into the future [32].

One of the most interesting uses of net migration rates derived from preceding decennial sources was employed in Pittinger's 1974 county projections for New York State [40]. In the course of this and previous work, Pittinger sifted the numerous patterns of net migration by age and sex down to six basic patterns [41; 42, pp. 187-194]. In projecting the counties of the Genesee-Finger Lakes Region, for example, he examined the "amplitude" (magnitude of difference between the highest and lowest age-specific values) and the net migration by age and sex of each county for 1950-1960 and 1960-1970. Using these figures as the base, the most appropriate migration *pattern* was assigned to each county. At this point, past migration is no longer used. Instead, the model pattern assigned to the county is modified if there are anticipated social and economic changes (i.e., the anticipated transition of an ex-urban county to a suburban one would entail a change of model pattern), the magnitude of total net migration is limited by historical trends, the totals are controlled to the net migration flows calculated for the entire region, and through an adjustment process, the net rates by age and sex for the county are forced to conform to the model rates.

Migration Updates

Beyond the extrapolation of net migration flows or rates and related techniques, it is highly advisable that the migration component be updated to reflect trends more recent than those discernable from the preceding census. It is important to do this because the post-censal trends in migration may differ significantly in either magnitude, composition, or direction from the trends exhibited earlier. To make projections based on trends which are no longer relevant could lead to grossly inaccurate figures which, in addition to being unrealistic, could cast suspicion on the entire projections process, even for areas where earlier trends have been maintained. Fortunately, it is possible to update migration trends because of the availability of consistent annual sets of county population estimates for those states which participate in the Federal-State Cooperative

Program for Local Population Estimates (FSCP).[11] Similarly, population estimates for almost 40,000 minor civil divisions have been prepared for the years 1973, 1975, 1976, and 1977 as the basis for distributing revenue-sharing funds under the State and Local Fiscal Assistance Act of 1972.

The importance of updating migration trends has been particularly evident in midwestern states which have been impacted by the "rural revival" phenomenon. In Michigan, for example, the population of the 15 sparsely populated counties bordering Lake Superior and northern Lake Michigan (the Upper Peninsula) had

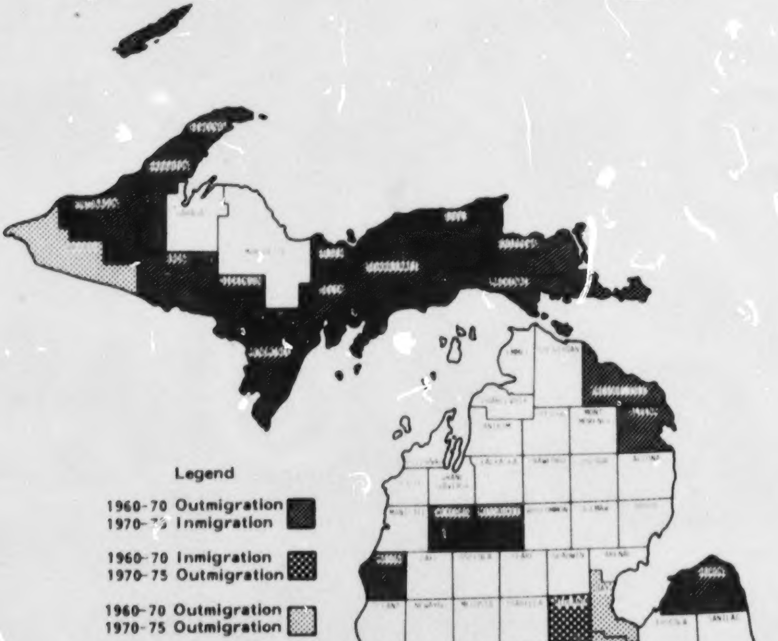
Legend
1960-70 Outmigration
1970-75 Inmigration
1960-70 Inmigration
1970-75 Outmigration
1960-70 Outmigration
1970-75 Outmigration
1960-70 Inmigration
1970-75 Inmigration

Fig. 9.1. Direction of migration flows for Michigan counties, 1960-70 and 1970-75

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declined from an all-time high population of 333,000 in 1920; by 1970 the population had reached 304,000, the second lowest total in 50 years [48]. Yet, there were intimations that this trend had been reversed during the early 1970s (See Figure 9.1). Certainly, the opening of the Mackinac Bridge linking the Upper Peninsula to the remainder of the state had made the north woods more accessible during the 1960s, and both expansion of military activity and college enrollments in this region during the 1970s had had an impact. Indeed, by 1975 population estimates indicated that the Upper

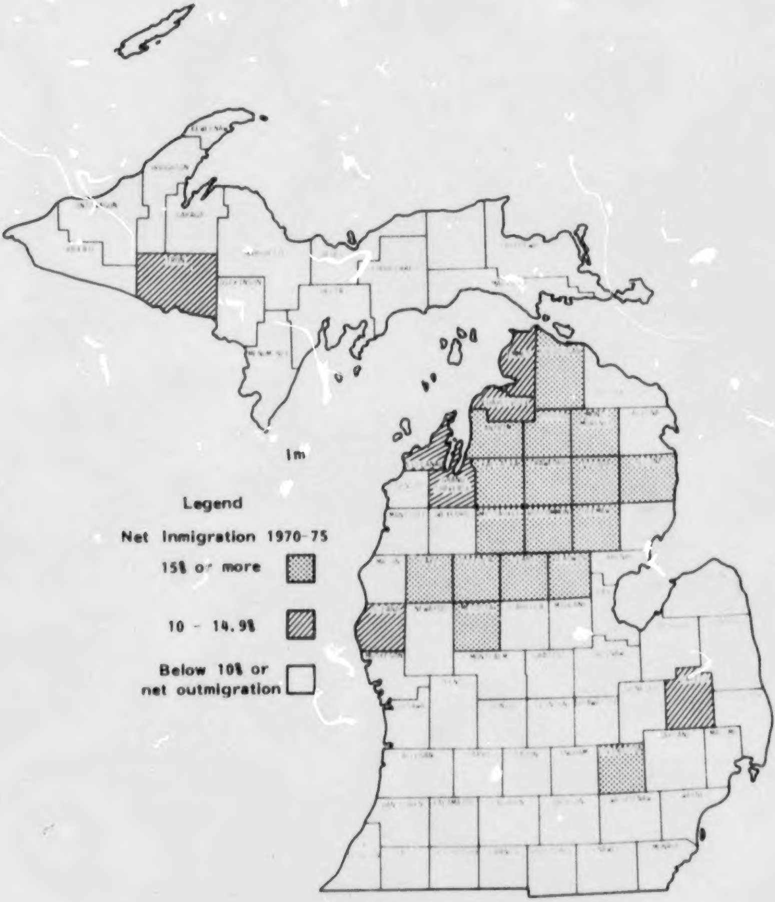

Fig. 9.2. Michigan counties exhibiting high rates of inmigration, 1970-75

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Peninsula's population had grown by more than 6 percent in the preceding five years and totalled almost 324,000 residents midway through 1975.

An equally important occurance was observed in the northern part of Michigan's Lower Peninsula during the same period. Long a favored vacation and recreation area easily accessible from Detroit and Chicago, northern Lower Michigan had experienced modest population growth during the 1960s due to natural increase and a small flow of migrants into the area. Since 1970, however, growth in this area has been explosive, and much of it has been due to inmigration (see Figure 9.2).

The unusual and unexpected growth in both of these areas, and indeed the changes in the direction and/or magnitude in migration trends exhibited for almost all Michigan Counties in recent years (see Table 9.1), clearly indicate the wisdom of attempting to update

Table 9.1. Net migration in Michigan counties, 1960-1970 and 1970-1975

County	Net migration 1960-1970	 1970-1975	Change[a]
Alcona	511	1,700	Magnitude
Alger	-1,148	700	Direction
Allegan	1,887	1,400	
Alpena	-1,747	900	Direction
Antrim	1,679	2,500	Magnitude
Arenac	638	1,700	Magnitude
Baraga	140	100	
Barry	2,988	2,100	
Bay	-4,579	-4,000	Magnitude
Benzie	299	1,700	Magnitude
Berrien	-6,213	-1,300	Magnitude
Branch	355	-900	Direction
Calhoun	-13,167	-7,600	
Cass	3,266	600	Magnitude
Charlevoix	1,867	2,100	Magnitude
Cheboygan	567	2,500	Magnitude
Chippewa	-6,417	2,100	Direction[b]
Clare	3,965	5,400	Magnitude
Clinton	4,186	300	Magnitude
Crawford	1,100	2,300	Magnitude
Delta	-1,382	2,200	Direction
Dickinson	-1,293	1,300	Direction
Eaton	12,314	5,500	
Emmet	948	2,100	Magnitude
Genesee	3,310	-29,600	Direction
Gladwin	1,769	3,200	Magnitude
Gogebic	-3,651	-100	Magnitude
Grand Traverse	2,365	4,700	Magnitude
Gratiot	-2,846	-2,100	Magnitude
Hillsdale	-772	1,600	Direction
Houghton	-1,958	2,000	Direction
Huron	-3,312	500	Direction
Ingham	12,677	-9,700	Direction
Ionia	-2,124	100	Direction

Table 9.1. (continued)

Iosco	3,895	2,000	
Iron	-3,243	1,700	Direction
Isabella	4,069	4,200	Magnitude
Jackson	-3,802	-2,700	Magnitude
Kalamazoo	8,480	-9,600	Direction
Kalkaska	722	4,400	Magnitude
Kent	-3,103	-6,100	Magnitude
Keweenaw	-104	100	Direction
Lake	404	1,200	Magnitude
Lapeer	4,668	6,900	Magnitude
Leelanau	911	1,400	Magnitude
Lenawee	-4,049	-100	Magnitude
Livingston	15,473	19,000	Magnitude
Luce	-1,374	400	Direction
Mackinac	-2,350	500	Direction
Macomb	122,277	6,400	Magnitude
Manistee	14	1,300	Magnitude
Marquette	414	2,200	Magnitude
Mason	-575	1,900	Direction
Mecosta	1,506	5,100	Magnitude
Menominee	-1,513	400	Direction
Midland	2,399	-900	Direction
Missaukee	-104	1,900	Direction
Monroe	2,822	1,100	
Montcalm	202	2,800	Magnitude
Montmorency	713	1,800	Magnitude
Muskegon	-13,654	-7,400	
Newaygo	1,400	2,200	Magnitude
Oakland	106,054	12,300	Magnitude
Oceana	1	1,800	Magnitude
Ogemaw	1,829	2,800	Magnitude
Ontonagon	-757	600	Direction
Osceola	151	2,300	Magnitude
Oscoda	1,091	1,900	Magnitude
Otsego	1,769	3,100	Magnitude
Ottawa	13,466	6,000	
Presque Isle	-1,556	600	Direction
Roscommon	2,655	5,400	Magnitude
Saginaw	-1,921	-7,500	Magnitude
St. Clair	1,571	5,400	Magnitude
St. Joseph	1,025	1,500	Magnitude
Sanilac	259	3,200	Magnitude
Schoolcraft	-1,290	600	Direction
Shiawassee	1,616	1,900	Magnitude
Tuscola	420	3,100	Magnitude
Van Buren	3,092	3,100	Magnitude
Washtenaw	31,241	-1,600	Direction
Wayne	-274,964	-301,300	Magnitude
Wexford	-321	1,500	Direction

SOURCES: Beale, Bowles, and Lee [3] and *Current Population Reports* [58].

[a] "Magnitude" represents any substantial change in the rate of migration where there has been no change in the direction of net migration.

[b] The closure of Kincheloe Air Force Base in 1977 resulted in a loss of approximately 5,000 Chippewa County residents.

the migration component used in any projections model. A few selected instances (see Table 9.2) reinforce this point.

Between 1960 and 1970, the population of Chippewa County in the Upper Peninsula remained stagnant because of the area's sluggish economy. During this decade Chippewa county experienced exceedingly high outmigration coupled with relatively great natural increase. By 1975, however, almost 4,000 residents were added to the county's population, largely due to inmigration spurred by the expansion of Kincheloe Air Force Base. Delta County, also in the Upper Peninsula, grew slightly during the 1960s, but exhibited a pattern of net outmigration similar to that in Chippewa County and, in general, not unlike that experienced in numerous declining rural areas throughout the nation. During the following five years, 3,000 new residents were added, most of whom had migrated to the area for retirement or in response to expanded economic opportunities within the county. In both of these cases it is clear that continuation of the migration trends experienced during the 1960s, or some modification of them, would not have accounted for the reversal from net migration to net inmigration which occurred in these and other similar counties during the 1970s.

In the Lower Peninsula, the change which had to be accounted for was that of magnitude rather than direction of migration. As illustrated in Table 9.2 both Grand Traverse and Kalkaska Counties had experienced absolute growth and net inmigration during the 1960s. In Grand Traverse County, the amount and percentage of growth between 1970 and 1975 was roughly equal to the growth observed there during the entire preceding decade. Moreover, the contribution of inmigration to this growth was twice as great during the first five years of this decade as it had been during the previous ten years. This change in magnitude is even more pronounced in the case of Kalkaska County. Here, between 1970 and 1975, absolute growth was more than three times as great as during the entire preceding decade, and the pattern of inmigration had increased more than six-fold. In these and numerous other "rural revival" counties, continuation or simple modification of prior migration trends would have led to serious short-falls in projections of their respective populations. Therefore, to account for these sorts of divergences from ongoing trends, the projections model currently used by the State of Michigan was explicitly designed to include a migration-updating routine.

Based on a technique developed by Grose [20], population projections by age and sex for Michigan counties are adjusted for each year in which final, revised, FSCP county estimates are available. The latest Michigan county projections, for example, are adjusted for each calendar year 1971 through 1975. These updating procedures include adjustments of the migration component for each age and sex group so that the magnitude and, where appropriate, the pattern of the county's migration reflect the annual changes in population size and composition estimated for the county.

Table 9.2. Population growth and net migration in four Michigan counties, 1960-1975

	Population			Net Migration	
County	**1960**	**1970**	**1975**	**1960-1970**	**1970-1975**
Chippewa	32,655	32,412	36,000	-6,417	+2,100
Delta	34,298	35,924	39,100	[illegible],382	+2,200
Grand Traverse	33,490	39,175	45,000	+2,365	+4,700
Kalkaska	4,382	5,272	8,500	+722	+4,400

SOURCES: Beale, Bowles, and Lee [3] and *Current Population Reports* [58].

The updating operation of the Michigan model is illustrated in the accompanying diagram (see Figure 9.3); the steps have been numbered to simplify the description. The model begins with 1970 Census base data and annual net migration flows by age and sex derived from the Beale, Bowles, and Lee [3] decennial figures. Births are added (1) to the base population and the total is aged using regional life-table survival rates for Michigan. The annual migration figures are added (2) to produce a Preliminary Projection (3). This Preliminary Projection for 1971 is compared to the final FSCP county estimate for 1971 (4) and any difference between them is attributed to migration occurring during 1970-71 which was otherwise not accounted for. It is in applying the difference to adjust the Preliminary Projection to the FSCP estimate control total that this approach is unique. Instead of applying the difference as additional migration directly to the Preliminary Projection, the difference is applied to the base population in order to produce a new, adjusted, Final Projection. To accomplish this, the migration component is adjusted during each projection cycle while the resulting projections are successively controlled to the total county estimates in each year these estimates are available.

The first problem is determining how to distribute the difference, as additional migration, among the various age-sex groups within the projected population. Although the FSCP estimates are published with no age, sex, or other details, the results of Component Method II (5)—one of three methods regularly employed to produce county population estimates—are available in unpublished form for several broad age and sex groups [57].[12] As our best guess for distributing this additional migration by age and sex, we take the proportions in each group from Component Method II and apply them to the difference (6). For example, if males 18 to 44 constitute 15 percent of the Component Method II total, we assume that 15 percent of the difference between the Preliminary Projection and the FSCP estimate occurs among males aged 18 to 44. This percent (e.g., 15 percent) is then proportionally distributed (7) among the smaller, more distinct, age groups within the category (e.g., males 18-20, 21-24, 25-29, and so on) by a simple algabraic plus-minus technique which changes the magnitude of migration within each group but maintains the over-all pattern of migration. These newly adjusted migration figures are used for two purposes: first they replace the Beale, Bowles, and Lee figures and are stored for use as the initial migration figures for the next annual migration cycle (8); and secondly, they are used to revise (9) the Preliminary Projections. Specifically, the base population is used again; births are added, survival rates are applied, and the *revised* migration figures are applied to each age-sex group. The product (10) is a Revised Projection, incorporating revised migration figures, which serves as the base for the following year's projection.

Although this updating model may appear to be quite complicated, it is not really very difficult, and it could be employed in other instances where this approach is appropriate. For one or even a few counties, this technique could be done with the aid of a simple calculator. In those instances where this model is not appropriate, variations on the general technique may certainly be devised using the same data.

Beyond census estimates and other fairly high quality data, there are other sources of information which may not be quite as suitable for updating purposes, are often not detailed at all, and which must be used carefully as they are subject to error and misinterpretation. Nonetheless, it is through the ingenious yet careful use of these non-standard or marginal data sources that imaginative planners, researchers, and local officials may learn more about their local populations and may contribute to updating their local population projections. The key to progress here is enlightened skepticism and the recognition that no single data source or indicator is likely to be sufficient for tracking population change or for updating projections and modifying the migration component.

Indicators of general population growth include housing construction and residency permits and demolition records, if available, as well as residential utility connection records. Any change revealed by these sources may indicate a change in the total population. The magnitude of the change, however, requires additional information on median household or median family size for the location. Multiplication of median household size by the number of new residences provides a rough indicator of population increase; if separate figures for single and multiple family dwellings are available, they might prove even more accurate. Records of increase or decrease in residential utility hook-ups may be used the same way. Any difference, greater or smaller, than that produced in the projection model employed may similarly indicate that the migration component should also be adjusted.

Great care must be taken in using these measures as building and residency records are not always required by law. When they are used, building permits are often obtained months in advance of construction and even years in advance of completion and occupancy. Similarly, demolition records are not kept in many places and where such records are legally required, demolitions are not always recorded. The lack of records is particularly likely in rural-fringe and other newly developing areas where municipal housing codes may be lax or nonexistent and where, in recent years, mobile homes have proliferated, often without any official record of them. One regional planning commission's way of dealing with this was to have aerial photographs made. Unfortunately, they were taken during

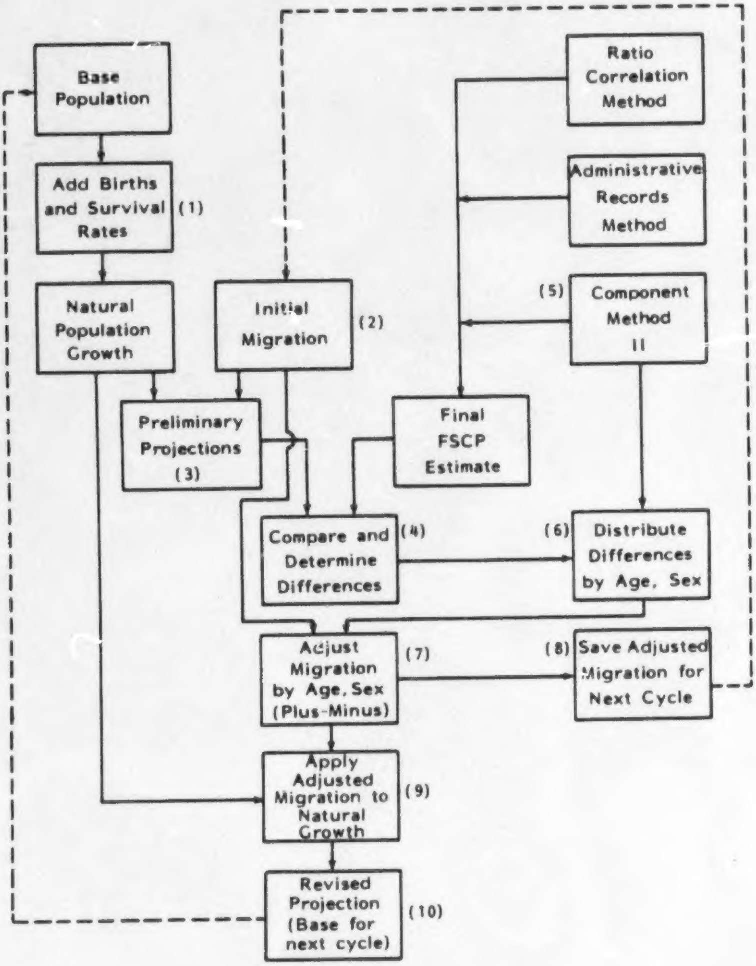
Base Population
Add Births and Survival Rates
(1)
Natural Population Growth
Initial Migration
(2)
Preliminary Projections (3)
Ratio Correlation Method
Administrative Records Method
(5)
Component Method II
Final FSCP Estimate
Compare and Determine Differences
(4)
(6)
Distribute Differences by Age, Sex
Adjust Migration by Age, Sex (Plus-Minus)
(7)
(8)
Save Adjusted Migration for Next Cycle
Apply Adjusted Migration to Natural Growth
(9)
Revised Projection (Base for next cycle)
(10)

Fig. 9.3. The "Michigan Method" for post-censal adjustments to population projections and their migration components

the mid-summer when full-leafed trees obscured at least some dwelling units, especially in the more rural areas where unregistered mobile homes were most likely to be found. A better solution would have been to use all available permits and records to try and match new residential development with expanded utility services—using one source as a check on the other.

Adjustments to the size and migration of specific segments of the population may be derived from several indicators. The numbers of school-age children in Kindergarten through grade 8 are available from annual school census or other records. Care must be taken in using these figures, however, as school district boundaries often do not follow county or municipal boundary lines. A post-censal estimate of the elderly population can be obtained from social security, railroad retirement, teachers' retirement, and civil service retirement records. In heavily industrial states, union pension funds may also be a good source. It is important to try and use all of the sources which are relevant to the particular geographical area or state as some individuals who appear on one set of retirement records will not necessarily show up on others. In some states, for example, retired teachers and state employees may not be covered by Social Security and therefore they may not appear in SSA records. The same holds for those covered by the Railroad Retirement Fund. It is even more likely, however, that some of the aged in an area will appear in several different sets of records and, therefore, caution must be used to prevent duplication in the estimate. One particularly good estimate of the elderly population is based upon Medicare enrollment and is available for 1975 and 1976 by state, multi-county planning and services areas (PSAs), and individual counties [13, 59].

Migration within the adult, working-age, population (roughly from ages 16 through 64) has traditionally been among the most difficult to account for at the county or smaller levels. In some states automobile registrations have been used for this purpose. In recent years, however, the growing popularity of jeeps, trucks, vans, and other vehicles for personal or family use have impinged on the simplicity and, possibly, the accuracy of this indicator. In Chippewa County, Mich., for example, when an Air Force base recently closed, there was a substantial drop in automobile registrations for the county. How accurately this reflects the loss of population due to the air base shut-down is unclear as the county recorded an increase in commercial vehicles at the same time. Some, if not most, of the decline was undoubtedly due to out-migration. A smaller portion was probably due to a switch from passenger automobile to some other sort of vehicle. Unfortunately, the dynamics and details of these changes cannot be accurately discovered with the data that are currently available. A related approach which holds some promise for the future involves directly tracking migration among adults through address changes on drivers licenses. Two states, Minnesota and California, are presently experimenting with this technique. It is not a perfect indicator of migration because everyone does not necessarily have a drivers license.[13] On the other hand, some people (such as undocumented aliens) who may not appear on any other records, including the census,[14] might have drivers licenses. Moreover, unlike most other sources, very short moves, multiple moves, return movers, and with the cooperation of other states, interstate moves might be tracked using these data. If the current experiments prove successful, and if all states agree to cooperate in codifying data and sharing information, we will have gone quite far in developing the sort of indicator which will allow us to track intercensal changes due to migration for states, counties, and even smaller areas.

Conclusions

The approaches, methods, data, and sources mentioned in this paper are not exhaustive. The problems associated with local area population projections are extensive and only some of them have been covered here. Also, the emphasis placed on the cohort-component approach is only partially justified by such factors as the availability of data and the exigencies of technical, staff, and temporal resources available to local area planners, researchers, and officials; there is also a matter of personal preference. Nonetheless, the preceding paragraphs may serve as an introduction for those unfamiliar with local area projections, and they may serve as a basis for discussion for those with more experience. For more detailed and extensive discussions of these and other related concepts, the following publications are highly recommended:

Irwin, Richard. 1977. Guide for Local Area Population Projections. U. S. Bureau of the Census, Technical Paper 39. Washington, D.C.: U. S. Government Printing Office.

Morrison, Peter A. 1971. Demographic Information for Cities: A Manual for Estimating and Projecting Local Population Characteristics. Report R-618-HUD. Santa Monica, Cal.: Rand Corporation, 1971.

Pittinger, Donald B. 1976. *Projecting State and Local Populations.* Cambridge, Mass.: Ballenger Publishing Co.

With the 1980 Census quickly approaching, there will be an abundance of new information as well as information that has not been updated for 10 years. These data will satisfy many of our needs for new information which we have struggled with through our estimates and projections for the past several years. The availability of census data will once again allow us to speak with confidence, albeit for only a year or two, about area populations and their social, economic, and housing characteristics; they will allow us to speak knowledgeably about target or clientele populations for programs; and zip code, census track, or other small area data will be available which are reasonably reliable. But even with the advent of the Mid-decade Census in 1985, we will once again revert to estimates and projections after a year or two to satisfy *all* of our demographic needs. During that time there will be a flurry of activity to verify the accuracy and reasonableness of projections made earlier by comparing them with the population enumerated in 1980.

The next few years will provide all of us—scholars, practitioners, and consumers of local area projections—an unprecedented opportunity to participate in this flurry of activity. In examining how our past efforts measure up to the enumerations, we must re-examine our techniques and data sources, make revisions and correct errors that are revealed, examine and learn other approaches, and, where feasible, create new approaches and develop new data resources. Although it is not reasonable to expect any great breakthroughs resulting simply from the availability of 1980 Census data, it is reasonable to forecast that growing concern with population information, growing needs for these data by local governments and agencies, and growing technical sophistication at all levels—all combined with the sudden availability of extensive fresh data—will stimulate another round of refinements and advancements in our abilities to project the populations of local areas.

NOTES

[1] According to Pittinger [42], and generally accepted by most practitioners, a *projection* represents a future condition given accurate data, correct usage of a projection model, and strict adherence to the assumptions which underlie the model. Because any set of assumptions may be combined with various models and data sets, projections are, by definition, hypothetical. A *forecast* is a projection to which judgment has been added; it is a projection the analyst believes is likely to materialize—i.e., it is a prediction. "In other words, *all forecasts are projections, but not all projections are forecasts*" [42, p. 4].

[2] The terms cohort-component and cohort-survival are usually interchangeable although Pittinger [42, p. 128] indicates that the term cohort-survival should be applied only to those approaches which do not include an explicit migration factor. One well known method which, by this standard, clearly is in the cohort-survival category is the small area technique devised by Hamilton and Perry [22].

[3] Another category, which Irwin [26] calls the "land use" approach, is considered by some to be an extension of the extrapolation approach [18]. As this approach is not widely used it will not be discussed in this paper. For further information, see Newling [38] and Greenberg, Krueckenberg, and Mautner [19].

[4] The OBERS projections were being revised at this writing and were to be available sometime in 1979. A discussion of the population component of this model more recent than the 1974 publication may be found in a paper by Johnson and Phillips [30].

[5] Extensive and detailed discussions of this technique may be found in publications by Morrison [36], Irwin [26], Pittinger [42], and Shryock and Siegel [50]. Directions for preparing a cohort-survival projection appropriate for those not extensively trained in demographic techniques may be found in Irwin's Guide for Local Population Projections [26].

[6] See, for example, Easterlin [8, 9], Easterlin, Wachter, and Wachter [10, 11], and Westoff [60, 61].

[7] I.R.S. records are used by the Census Bureau in estimating population with the Federal-State Cooperative Program for Local Population Estimates. These data are *not* available to any state or local participants in any form.

[8] The gross migration flows enumerated in *Current Population Reports* [55] are *not* cross-tabulated by sex and race, and only seven relatively large age categories are presented. To acquire county directional flows for all five-year age groups, by sex—a reasonable requirement at the county level—would require access to the migration files maintained on magnetic tape. Finer breakdowns of the data would entail even greater potential errors due to sample variability, response errors, and non-response than is presently the case for the published materials.

[9] Similar figures were prepared for the 1950-1960 decade by Bowles and Tarver [4].

[10] Residual net migration figures derived from examination of decennial changes in cohort population are ten-year figures. As most cohort-component models utilize five-year rather than ten-year age-groups, and as they generally operate on five-year cycles, these figures must be adjusted accordingly. The standard means of accomplishing this is the "adjacent-cohort" technique described and illustrated by Irwin in two of his recent publications [26, pp. 21-22; 27, pp. 41-42].

[11] At the present time, all states except Texas and Massachusetts are participating in the Federal-State Cooperative Program.

[12] The age-sex groups include total population 0 to 17, males 18 to 44, females 18 to 44, total population aged 65 and older. From these figures, an estimate of the population aged 45 to 64 may also be derived.

[13] In some large metropolitan areas there are a number of individuals who, for a variety of reasons, choose not to drive and thus do not have

drivers licenses. Local laws must also be accounted for. In New York City, 18 is the minimum age for obtaining a standard drivers license; those aged 17 who have successfully completed a certified drivers education course may also obtain a license. As these courses are not offered as part of the regular curriculum by New York City schools, the proportion of 17-year-olds with licenses is relatively small.

[14] As one of several means of minimizing undercounts in the 1980 Census, the Census Bureau has requested tape files of all licensed drivers in all states and territories to be used in cross-checking names and addresses of those counted by the census enumerators.

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